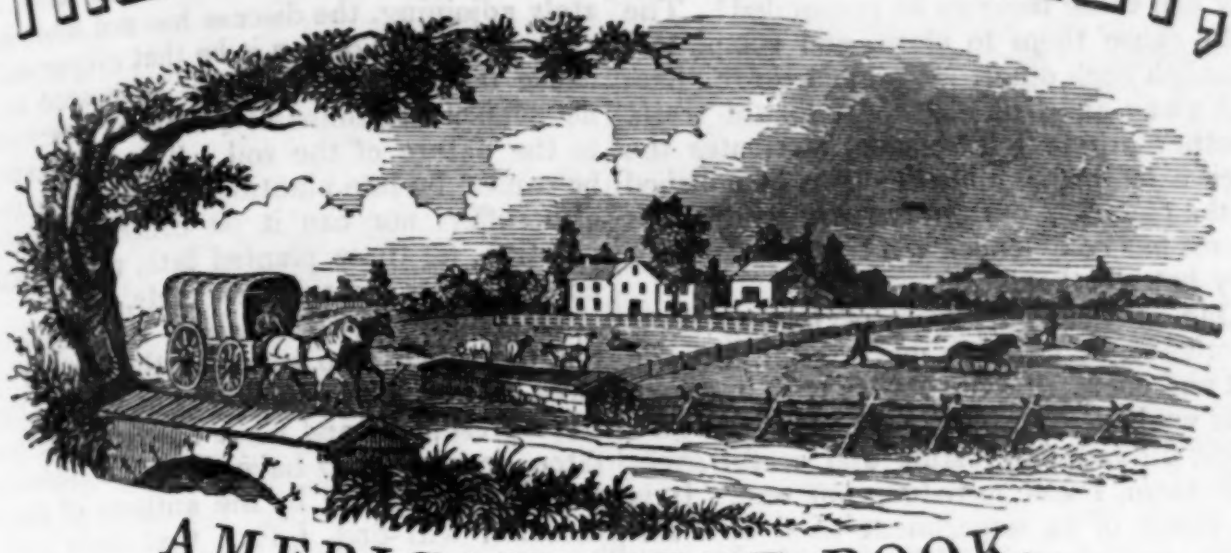
THE FARMERS' CABINET,

AND



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—Liebig.

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For the Farmers' Cabinet.

Potatoe Rot--Objections to various Theories.

Mr. Editor,—I have for some months past, read with no little interest the various articles which have appeared in different papers on the subject of the potatoe rot. Merely to say that I am somewhat surprised at the various ideas and reasonings in relation to the cause and cure of the disease, would not be to express my feelings upon the subject. I have been astonished; and although I had intended to trouble you no more upon this matter, I have felt it my duty to take it up again and treat it in a different manner.

I notice in many excellent papers, long essays on the potatoe disease; but were it not that their authors sometimes intersperse a few facts among their lengthy disquisitions and fine spun theories, their articles would be worse than useless. But whenever they give facts they render a service, as by that means people may be enabled to judge for themselves of the cause of the facts, and thus arrive at the truth, if it be possible. I am happy to say, that in your December No. p. 159, I noticed an article devoted to facts more than to theories, although the latter are also given. Before going further, you will permit me to refer you to the nature of those facts. You will perceive that they fully sustain my views. You will recollect that my opinion is, that the disease is caused by a want of alkaline matter. I stated some months since in the Cabinet, that the cellular tissue is composed partly of alkalies, and where these were deficient the result was a weakness, and ultimately a total destruction of that cellular tissue; and as an accompanying circumstance, the death and decay of the potatoe. The destruction of the cellular tissue at the time of the death and decay of the potatoe, while the other parts of the potatoe are comparatively sound, you will perceive is stated in the article just referred to—said article says: "It seems from the microscopic appearance, that the starch escapes injury for a long time after the skin and cellular parts are gone."

But I object to the theory accounting for the fact. The experience of a great many of the farmers of this country has been against such a theory. It is the opinion of the different writers, that the rot was caused by the cold and wet weather, while we are well aware that the rot has been destructive in times of excessive heat and drought; so

much so, indeed, as to lead scientific men to attribute it to that cause alone. Now how can these theories be reconciled? The facts cause them to clash, and completely demolish each other. We must throw them both away, and look elsewhere for the truth. Another article I have seen, attributes the disease to frost. This theory is demolished by the fact, that our farmers are aware that the rot has commenced and continued during very hot weather.

One of the best ways of testing these theories is, by taking a marked and decisive fact and comparing the theory with it. Such facts we have in abundance, and although I might fill your interesting and useful sheet with them, I will introduce but one. It is the result of an experiment tried by a scientific and observing farmer, and one who is fully to be trusted in his assertions—I have reference to Mr. R. L. Pell, of Ulster county, N. Y. His own account of the experiment may be found in the Report, page 241, of the Commissioner of Patents for 1844; and in my essay, in page 363, of the last volume of the Cabinet.

Here it will be seen, that whenever the rows were treated with substances containing alkalies, the rot did not injure them, but on the contrary the crops were very large; where the rows were left without alkalies, the entire crop rotted. Now if the fungi were the *cause* of the disease, why did they not attack all the field alike? If the disease was caused by the cold, wet weather or frost, why did entire rows escape, while those in the immediate vicinity were entirely destroyed? If hot weather caused the rot, why were some of the rows exempt from it, and those a few feet distant so completely destroyed? It cannot be supposed that there was a difference of temperature in the different rows, sufficient to produce such a marked effect. If the worms cause the disease, why did they confine their ravages to those rows alone which were not treated with the composition? If the bugs and flies cause the disease, why did they not destroy all indiscriminately?—their power would seem to have been felt severely in some parts of the field, but other parts totally escaped—why was this? If the disease was caused by the potatoe losing part of its vital power, how is it that in a field planted with the same kind of potatoes, some rows were entirely destroyed, and others entirely escaped? It cannot be that, as some say, the foreign varieties would escape the disease, for here we see a foreign variety suffering as much as the worst. It cannot be that sandy soils cause the disease, for here the disease does not confine itself to the sandy soil, but shows itself in its most terrible form in some rows, and in others immediately adjoining, the disease has not made its appearance. Nor can it be that clayey soils cause the disease, for it is here seen and not seen indiscriminately, without reference to the nature of the soil. The rot cannot be caused by late planting, for early planted also suffer: nor can it be caused by early planting, for those planted late, are not exempt from its destructive effects.

Under these circumstances it appears to me, that they who advocate these theories have been thrown completely at fault by the facts presented, and what is worse, the potatoe growers who have placed confidence in the advice given by the authors of these theories, will find, I fear, that their confidence has been misplaced, and the too probable result will be, that obloquy will fall upon what is deridingly called "book farming." It is somewhat humiliating, too, that although such failure will operate to the disadvantage of "book farming," still, if perchance the true cause of the evil be discovered, and "book farming" renders that service, few will there be to give it the credit. Too much care cannot be taken with this matter, and too blind a confidence should not be placed in any opinion. Good sense and scientific knowledge are much needed, and in no instance is the want of chemical knowledge among agriculturists felt more sensibly than in the case before us.

Before closing this article, I must be allowed to make a few remarks upon an apparent objection which I have seen raised to my theory. I saw in a newspaper, about the middle of December last, an article stating that, among other things, alkaline solutions failed in stopping the rot after it had commenced in a heap of potatoes. Alkaline *solutions* should not be too much depended upon when the disease has become deeply seated. The dry alkalies—and the drier the better—should be applied in such instances, and rather profusely. There is an immense quantity of carbonic acid disengaged in proportion to the size of the potatoe when decay is rapidly going on, and therefore the alkali which is to neutralize it should not be used with a sparing hand under such circumstances;—hence the reason why alkaline *solutions* failed in producing the desired effect; and from the same cause many failures will occur in its use. The quantity of ashes applied to a potatoe patch must necessarily vary to suit many circumstances; among which may be mentioned, the strength of the ashes, or their power of producing strong lye—the season of the

year when applied—the subsequent weather—the nature of the soil—the lay of the land—the quantity of the manure yielding carbonic acid—the quantity of carbonic acid produced in the surrounding country—and numerous other circumstances that have occurred to my mind, but do not now present themselves. Under these circumstances I should advise this course to be pursued: give but a handful of ashes to a hill at the time of planting, and if at an advanced stage of growth the tops look very green and luxuriant, sow good ashes over them when the dew is on in the morning, until they look light with them. If after this you observe the luxuriance still continue, and the soft leaves die and turn black and crisped, lose no time in giving them a heavy dressing of good ashes; or if such ashes be not at hand, take your refuse salt from your fish and pork barrels and scatter it thinly over the patch every few days, until the potatoes again present a healthy appearance. Such a course, judiciously pursued, will not fail to secure a large and healthy crop of potatoes when there is danger of disease; and where the danger is greatest, there will the extra produce be sufficient abundantly to repay the trouble and expense of the application of the preventives—not taking into consideration the advantage of a healthy crop.

Trusting that the foregoing remarks may be of some service, I remain

Yours, &c.,

CHEMICO.

Wilkesbarre, Feb. 23rd, 1846.

Ploughing near Salerno.

THE fields being without fences, have an open look; and the mingling of men and women together in their cultivation, gives them a chequered appearance, and renders them very picturesque. In the middle of a large green wheat field would be a group of men and women weeding the grain; the red petticoats and the blue spencers of the latter contrasting beautifully with the colour of the fields. In one plot of ground I saw a team and a mode of ploughing quite unique, yet withal very simple. The earth was soft, as if already broken up, and needed only a little mellowing: to effect this, a man had harnessed his wife to a plough, which she dragged to and fro with all the patience of an ox, he in the mean time holding it behind, as if he had been accustomed to drive, and she to go. She, with a strap around her breast, leaning gently forward, and he bowed over the plough behind, presented a most curious picture in the middle of a field. The plough here is a very simple instrument, having but one handle, and no share, but in its place a pointed piece of wood, sometimes shod with iron, projecting forward like a spear; and which merely passes through the ground like a sharp-pointed stick, without turning a smooth furrow like our own.—*Letters from Italy.*

Agricultural School.

DR. LEE commences the New Year by announcing that he has made arrangements with Gen. Rawson Harmon, of Wheatland, Monroe county, N. Y., to open an Agricultural School for Western New York. It will be located on Gen. H.'s farm, which contains 200 acres of improved land, under excellent cultivation.

Gen. Harmon's farm is regarded as admirably adapted to the establishment of such an institution. He turns out some 15,000 bushels of superior seed wheat every year, beside considerable seed corn, and between 45 and 50 fine wooled bucks. As a breeder of sheep, he has few equals in the country. His facilities for soiling, or for keeping up sheep, cows and swine, can be estimated by practical farmers, when they are informed that his basement rooms, walled in with stone laid in with lime morter, cover an area of 8,916 square feet—or more than the whole basement surface of *seven* 30 by 40 feet barns.—*Farmer and Mechanic.*

OLD BREAD THE BEST.—It has been found that baked bread on the first day produces from seventy-one to seventy-nine per cent. of nutritive matter, while that five days old yields from eighty-one to eighty-two per cent. New bread loses the five per cent. of its weight by evaporation in cooling. Aside from the advantages of stale bread in its nutritive matter, it is more wholesome, more easily digested, has more taste and is sweeter; while new bread lies heavily in the stomach and is of difficult digestion. With these advantages it is strange that most people reject stale bread or prefer the new. It has been found that, on feeding the poor, very stale bread mixed with soup is far more satisfying than any other they can obtain. Thus the labouring classes consume one-eighth more bread than would be necessary if stale bread were used; or a family that consumed six pounds of bread per day would expend, at the present price, some ten dollars more a year by eating new, than by eating stale bread, with all the other disadvantages we have mentioned.

Artificial Duck-hatching in China.

One of the greatest lions in Chusan—for we have lions here as well as you in London—is an old Chinaman, who hatches duck-eggs in thousands every spring by artificial heat. The first question put to a sight-seeing stranger who comes here is, whether he has seen the hatching process; and if he has not, he is immediately taken out to see the old Chinaman and his ducks. An account of the house and the process will probably interest you, and I therefore send you a leaf of my private journal, which I wrote on the morning of my first visit.

It was a beautiful morning in the end of May, just such a morning as we have in the same month in England, perhaps a little warmer; the sun was upon the grass, the breeze was cool and refreshing, and altogether the effect produced upon the system was of the most invigorating kind, and I suppose I felt it more, having just arrived from Hong-Kong, and suffering slightly from the unhealthy atmosphere of that island. The mist and vapor were rolling lazily along the sides of the hills which surround the plain on which the city of Tinghai is built; the Chinese, who are generally early risers, were already proceeding to their daily labours; and although the greater part of the labouring population are very poor, yet they seem contented and happy. Walking through the city, out at the north gate, and leaving the ramparts behind, I passed through some rice fields, the first crop of which is just planted, and a five minutes' walk brought me to the poor man's cottage. He received me with Chinese politeness; asked me to sit down; offered me tea and his pipe, two things always at hand in a Chinese house, and perfectly indispensable. Having civilly declined his offer, I asked permission to examine his hatching-house, to which he immediately led the way, and gave me the following account of the process. First, however, let me describe the house.

The Chinese cottages generally, are wretched buildings of mud and stone, with damp earthen floors, scarcely fit for cattle to sleep in, and remind one of what the Scottish cottagers were a few years ago; which now, however, are happily among the things that were. The present one was no exception to the general rule; bad fitting, loose, creaking doors, paper windows, dirty and torn; ducks, geese, fowls, dogs, and pigs in the house and at the doors, seemingly as important, and having equal rights with their master; then there were children, grandchildren, and, for aught that I know, great-grand-children, all together, forming a most motley group, which, with their shaved heads, long tails, and strange costume, would be a capital subject for the pencil of Cruikshank.

The hatching-house is built at the side of the cottage, and in a kind of long shed, with mud walls, and thickly thatched with straw. Along the ends and down one side of the building are a number of round straw baskets, well plastered with mud, to prevent them from taking fire. In the bottom of each basket there is a tile placed, or rather the tile forms the bottom of the basket; upon this the fire acts, a small fire-place being below each basket. The top is open, having of course a straw cover, which fits closely, and which covers the eggs when the process is going on, the whole having the appearance of a vase which we sometimes see placed upon a pedestal at home, or rather exactly like the Chinese manure tanks, which perhaps are less known. In the centre of the shed there are a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process.

When the eggs are brought, they are put into the baskets described above, the fire is lighted below, and, according to some observations made with a thermometer, the heat kept up seeming to range from 95 to 102 degrees; but the Chinamen regulate the heat by their own feelings, and not by thermometer, and therefore it will of course vary considerably. In four or five days after the eggs have been subject to this temperature, they are taken carefully out, one by one, to a door in which a number of holes have been bored exactly the size of the eggs; they are then held in these holes, and the Chinamen look through to the light, and are able to tell whether they are good or not. If good, they are taken back and replaced in their former quarters; if bad, they are of course excluded. In nine or ten days after this, that is, about fourteen days from the commencement, the eggs are taken out of the baskets and spread out on the shelves which I have already noticed. Here no fire-heat is applied, but they are covered over with cotton and a kind of blanket, remaining in these circumstances about fourteen days more, when the young ducks burst their shells, and the poor Chinaman's shed teems with life. These shelves are large, and capable of holding many thousands of eggs; and it is really a curious sight, particularly during the last two days, when the hatching takes place. The Chinese who rear the young ducks in the surrounding country, know exactly the day when they will be ready for removal, and

in two days after the shell is burst, the whole of these little creatures are sold and conveyed to their new quarters.—*Athenæum.*

The American Agricultural Association.

At the meeting of this Society, on Monday evening last, the committee on the subject of introducing the Alpaca into this country, made an interesting report, which was followed by resolutions appointing a committee to receive subscriptions for the purpose of introducing this beautiful and valuable animal from South America into the United States. We understand that more than $4000 have already been subscribed. The valuable work re-published at the office of the New York Farmer and Mechanic, was introduced. This is a republication of an English work, giving the particulars of the introduction of this long wooled animal into Great Britain. It is offered at the low price of 12½ cents.

R. L. Pell, Esq., chairman of the committee in that report, said the experiment so far has been successful in England—that the female became matured two years earlier than in the native mountains, and that the wool was finer, and of increased length.

The following officers were elected for the ensuing year:

President—Hon. Luther Bradish.

Vice Presidents—Hon. Theodore Frelinghuysen, James Lennox, James Boorman, A. H. Stevens, M. D., T. A. Emmet, H. Maxwell, S. Whitney, S. Knapp, Vice-Chancellor McCoun, Cyrus Mason, D. D., W. A. Seeley, J. S. Livingston.

Treasurer—A. P. Halsey.

Recording Secretary—R. Ogden Doremus.

Corresponding Secretary—A. H. Green.

Executive Committee—R. L. Pell, J. W. Draper, M. D., Archibald Russell, Col. Edward Clark, D. P. Gardner, M. D., R. K. Delafield, Shepard Knapp.—*Farmer and Mechanic.*

There were two hundred and seventy-three square-rigged vessels lying at the port of New Orleans on the 5th ult., of which two hundred were American. When the crowd of steamboats and sailing craft smaller than brigs is remembered, it may be imagined what a busy scene the wharves at New Orleans present.

When you are an anvil, have patience; when you are a hammer, beat straight.

Good Corn Crop.—Whilst on the subject of farming, and to show what *can* be done by perseverance, we will state a case that has come within our own observation. J. J. Scofield, Esq., has a farm about a mile from town, which he has tilled as a farmer ought to. That portion which is not in peach trees is under fine cultivation, and a rotation of crops is resorted to. On one lot he resolved to measure the quantity of corn raised thereon. R. K. Tuttle, Esq., surveyed the land, and found it contained two acres and eighty-one hundredths. The crop measured two hundred and fifty bushels shelled corn, averaging *ninety-one bushels and eight-tenths* of shelled corn to the acre! This is farming to some advantage, as no extra care or attention was paid to this field over those adjoining. Would our farmers but till *less* land than many of them do, and keep it in better plight, they would in return reap heavier crops at much less expense.—*Morristown Jerseyman.*

Take Care of your Shoes.—At the breaking up of winter you will need good sound shoes or boots, more, even, than in winter. We have used the following mixture, and think it better for making waterproof shoes than any other. We also give the price of the material, just as we obtained them at Craighead's Drug Store:

One pint boiled linseed oil, 15 cents; two ounces beeswax, 4 cents; one ounce of rosin, 4 cents; one ounce oil of turpentine, 6 cents—making 29 cents.

Two ounces of copal varnish would give this mixture some lustre, and cost six cents. Cover the soals, seams, and upper leather with it, when well melted together; dry it in by a fire and cover again, until the leather is filled. Your boots will last longer, the leather will be soft and impervious to water. —*Western Farmer and Gardener.*

Sheep.—Sheep should not run or be fed with any other stock. Cattle hook them, colts tease and often injure them. It is often said that "colts will pick up what sheep leave." Well managed sheep rarely leave any thing—and if they chance to, it is better to rake it up and throw it into the colts' yard, than to feed them together. If sheep are not required to eat their feed pretty clean, they will soon learn to waste large quantities. But if sheep are over-fed with either hay or grain, it is not proper to compel them by starvation to come back and eat it. They will not unless sorely pinched. Clean out the troughs—or rake up the hay, and the next time *feed a little less.—Valley Farmer.*

From the Farmers' Library.

Potatoe Rot—James Gowen's Letter.

Mount Airy, Dec. 29th, 1845.

My Dear Sir,—Your note on the subject of "The Potatoe Rot," dated Saturday, did not reach me at Mount Airy—Sunday intervening—till this morning, Monday. It would give me pleasure to oblige you fully in this matter, did time permit to go more into detail; but the brief space allotted for a reply, will compel me to be as concise as possible.

I hold that atmospheric influence is the sole cause of the late pervading rot in the potatoe; that neither manures nor condition of soils could have produced the calamity; that animalculæ and fungi are as remote from it—the latter may in a partial manner injure a potatoe plant, as they would, under peculiar circumstances, be likely to injure other plants; that the rot *is not* epidemic; and I have reason to believe that sound or *partially* sound potatoes, taken from a diseased crop or heap, will, if planted, produce healthy, sound potatoes, in the absence of the cause which injured them the previous season.

I would therefore encourage the farmers to cultivate their potatoes as formerly, choosing the soils and applying the manures which hitherto were found best adapted to their culture; forgetting or overlooking the rot altogether, and disregarding the nostrums recommended for its prevention: the potatoe won't bear doctoring.

The weather which produces rot is either a severe, continuous drought of some weeks' standing, thereby preventing the natural growth and maturity of the potatoe, for the want of moisture, or very hot weather, bringing the potatoe to a premature ripeness, succeeded by wet, sultry weather, unnaturally *spring-like*, which provokes the tubers to perform the functions of seed, thereby dissolving the connection between them and their vines; the vines die; the roots undergo an incipient fermentation preparatory to decomposition: the operation of budding or growing is checked by the natural autumnal temperature that at length prevails, which arrests the potatoe in its work of producing, and hence its deterioration. The latter condition of the weather is the prevailing cause of the rot.

As to a severe and continuous drought, my own experience points to that of 1838. That season I had a five-acre patch in with potatoes, which did not pay for the trouble of taking them out of the ground. They were small, ill-shaped, bad-tasted, poisonous, spotted and black-hearted, and rotted in cellar. Potatoes that season sold as high as $1 25 and $1 50 per bushel—not a bushel of good potatoes at market, except those imported. Then as to dry, hot weather, succeeded by wet, close, over spring-like temperature, the season of 1843 is in point. I took more than common pains that year to produce a surpassing yield, equal, at least, to my famous crop of the preceding year, which was over 440 bushels to the acre—field culture. My seed was in part from those fine potatoes, and in part from some very large, sound potatoes imported from the State of Maine. On taking out the crop in October, the whole was found to be very badly diseased. The weather, from the latter part of June till the beginning of September, was mainly hot, occasionally very hot and dry. September set in with warm rains, thunder-storms and gusts; the moisture and closeness unprecedented; fruit-trees blossomed, as well as many flowering-trees and shrubs; I recollect making a large collection of flowers from the magnolias, some of which I sent to the editor of the "Pennsylvania Inquirer." My potatoe vines looked green and healthy, when all of a sudden they changed colour, drooped and died. I think if I had taken out the potatoes at that juncture they would have proved comparatively good; but they were permitted to remain quite a month after, when they were found badly rotted, tainted, and almost worthless.

Now then, as to the epidemic. In 1844, I planted some four to five acres of potatoes, *the seed of which was principally culled from the diseased crop of* 1843. I planted, also, at the same time, in the same field, other seed of very sound potatoes brought from Maine; they all did equally well; I *could discover no difference;* the crop was a very fair one, and the quality unexceptionable in every respect. I do not mean by this to encourage the planting of diseased or doubtful potatoes. It is safer to plant sound and perfect ones; but I am strong in the opinion that there is no danger of a diseased or tainted potatoe producing a diseased or tainted potatoe. It may, from its want of vitality, be very unproductive, make feeble shoots, the same as decayed potatoes from on ship-board after a long voyage, the heat and moisture of the vessel's hold having caused them to send out enormous shoots, impairing their vigor and producing rot. Such potatoes, when planted, never produce well as to size and quantity; but I have yet to learn that they ever produced a diseased potatoe.

Much has been said of potatoes becoming feeble and sickly from long and constant planting: there may be something in this; time will not permit me to examine it now.

I have, however, numerous sorts of seedlings produced from the apples of my very fine crop of 1842. I shall take occasion to present you with a few to send to some of your friends abroad.

By this you will see that I can offer no remedy or preventive for the rot. He that tempers the wind to the shorn lamb, can only control it. Should it again visit us, we can only exercise our best judgment by taking out the potatoes early—as soon as they exhibit signs of decay—laying them in thin layers in dry, cool situations, or otherwise, as circumstances may justify. Let the farmers go on and plant in confidence, as their best experience may teach, trusting for an abundant yield to that Providence who sendeth the early and the latter rain.

Very respectfully,
Your friend and ob't servant,
JAMES GOWEN.

WILLIAM PETER, ESQ.,
Her Britannic Majesty's Consul, Philadelphia.

New Jersey.

Extract from the Oration of Bishop Doane, before the Historical Society of New Jersey, at Trenton, January 16th, 1846.

UNFOLD with me the map of the United States. Direct your eye along the sloping line of the Atlantic coast, until it reaches well nigh the centre. Select what seems the snuggest, sunniest nook, in all that graceful sweep. Rest where a noble river makes almost an island with the ocean; washing its utmost length, and giving, to every pine that crowns the summit of its farthest mountain, a passage to the sea. It is the lot of our inheritance. Examine it more closely. See how the mountains rivet it upon the mainland, at the north. See how their tall and rugged peaks sink down and soften, in the gentle swells and genial vallies of the middle counties. See what a stretch of coast, until the vast alluvial vanishes away into the broad Atlantic. *Is there a question about climate?* I am satisfied that if the arc of highest points, for health, and comfort, and enjoyment, on the map of North America, could be described, it would sweep through New Jersey. There is no better test of this than in the abundance, and variety, and perfection, of its fruits. This was the theme of admiration with the earliest settlers of the country, and deserves to be so still. "I have seen orchards," one writes home, in 1680, "laden with fruit to admiration: their very limbs torn to pieces with the weight, and most delicious to the taste, and lovely to behold. I have seen an apple tree, from a pippin kernel, yield a barrel of curious cider; and peaches in such plenty that some people took their carts a peach-gathering; I could not but smile at the conceit of it. They are a very delicate fruit, and hang almost like our onions that are tied on ropes." "My brother Robert had as many cherries this year as would have loaded several carts. It is my judgment by what I have observed, that fruit trees in this country destroy themselves by the weight of the fruit." This is a picture from the life, as all who hear me know. *Is the inquiry about agricultural productions!* What can be named, of food, for man or beast, in which New Jersey is deficient? Nay, and she never can be, if her farmers mind their business. Limestone and marl divide the land between them. The very rocks are made to fertilize the soil which lies upon them; or the mouldering shell-fish of the world before the flood, convert the worthless sand-waste into fields of smiling corn. Facilities of transportation, constantly increasing, rapidly equalize the land; and soon will bring it all into successful cultivation, while the river or the creek, the rail-road or canal, that spreads the lime or marl upon the fields, takes down the corn or wheat, the butter or the pork, to the insatiable market of the cities and the ports of foreign export. Such are the agricultural advantages of New Jersey, that the Massachusetts State Commissioner, now travelling in foreign countries, on inquiries in the line of his department, has habitually advised young men from the New England States to come and settle here; the climate and the soil yielding to equal labour a larger return of profit and of comfort, than in any other State in our whole Union. Nay, and old Ocean smiles, and yields his treasures for our culture. "The oysters" that one wrote, from Perth Amboy, in 1684, "would serve all England," are still there; and in plantations to supply the world. *Is the inquiry of our mineral resources?* They are innumerable and inexhaustible. Marble, of every kind and every quality. Slate, in abundance. Varieties of clay, for every use, up to the finest porcelain. A free-stone from New Jersey, rears at the head of the great mart of commerce in our Western world, a Christian church, of noblest, most impressive architecture; which, if it could, would lift the hearts of men up with their eyes to heaven. The richest ores of iron; copper in singular purity; rare stores of zinc. In very deed, "a land whose stones are iron, and out of whose hills thou mayest dig brass." *Are the results of useful arts the subject of investigation!* With such

a store of raw materials of every kind; with water power incalculable; with coal in inexhaustible supplies, lying at the very door; with skilful heads and vigorous hands to turn them all to best account, there is no branch of manufactures which is not, or may not be, made available to Jerseymen. Paterson, Newark, Belleville, Dover, Trenton, and Bridgeton, need but sufficient capital and enterprise to be our Manchester, our Sheffield, and our Birmingham. While, *for commercial purposes*, inland and foreign, our noble canals, our most efficient railroads, the majestic Delaware, the broad Atlantic—New York and Philadelphia, as much our ports as if they lay upon our waters, give us at once a vast home market, and the market of mankind.

Raising Sheep at the West.

An opinion has been very prevalent for a long time at the East, that sheep can be fed nearly throughout the year on the natural pastures of the prairies. Though we have never entertained this opinion ourselves, yet we have been unwilling to speak of it without more definite information than we have hitherto had. We have made extensive inquiries on the subject recently, and have further testimony of some authentic written sources, and particularly from the editor of the Prairie Farmer, which induces us to state most explicitly, that all such opinions are entirely unfounded.

The herbage on the rolling prairie is frequently of a choice quality for grazing purposes, abounding as it does, in a variety of nutritious grasses, the wild pea, &c., &c. But this does not usually spring up in sufficient abundance to afford a full bite before May, and the first severe frosts of autumn injure it to such an extent, as to make it entirely worthless to sheep. A few days' pasturage on it, in this condition, will kill off sheep as rapidly as rot. Excepting some three or four of the summer months, then, the prairies are worthless as sheep-walks, and other sources than the natural pastures must be provided for them. This can only be done by preparing sufficient pasturage from the cultivated grasses. On these they can subsist as on similar pastures elsewhere; but the rigors of the cold weather will render ample provision necessary for the late fall, winter, and early spring months, as with us. Good grass, straw, pea or bean vines, grain and roots, are just as essential to the health, thrift, and production of sheep on the prairies, as in similar latitudes at the east.

The profits of sheep-raising at the West must, therefore, be reduced to an approximate level with those elsewhere. Then the low price of land is in their favour; here, proximity to market, and the higher price of mutton, give us a decided advantage; and the improvements made here in fences, roads, buildings, &c., may well nigh neutralize the difference in the first cost of land. Certain it is, that the advantages of sheep-raising in the West are not such as to alarm our Eastern shepherds, from an apprehension that their business will be taken out of their own hands. It is now, and probably will continue to be a lucrative occupation with our Western husbandmen, and as such, should enter largely into their arrangements; but its monopoly can nowhere be secured, we believe, on this continent.—*American Agriculturist.*

Sketch of the Corn Laws.

A short summary of the history of the Corn Laws cannot fail at this moment to prove interesting. The first act for regulating the rates of duty, was 13th Geo. III., c. 48. Previous to the passing of that act, the statutes or orders in Council on the subject were rather dictated by circumstances, such as prosperous and deficient harvests, than any intelligible and settled principles. Usually, a greater quantity of corn was grown than was required for our own consumption. When there was a scarcity the exportation of all kinds of grain was prohibited, and even bounties offered for importations from abroad. When, on the other hand, there was a glut in the country, bounties were offered for its exportation. From an early period, certainly as early as the reign of Henry VI., the principle of protection to home-grown corn, has been invariably maintained by our legislature. In the reign of James I., the importation of foreign wheat was prohibited when the price in the English market was below 32*s.* per quarter; and in the reign of Charles II., when the commerce of England became more extended, it seems a complete sliding scale was established, the duty on foreign wheat being 16*s.*, when the price here was 53*s.* per quarter or under; 8*s.* when between 53*s.* and 80*s.*; and when above the last price all imports to be allowed free. The same line of policy may be traced pervading the whole of the succeeding changes in the laws until 1773, when they assumed a more constant and regular shape. By the act of 13 Geo. III., the duty was 24*s.* 3*d.*, when wheat was under 50*s.* per quarter, and when the price was at or above 54*s.* the duty was 6*d.* These rates seemed to have been fixed with a view of keeping the price of wheat as nearly as

possible at 50*s.* per quarter—which, regarding the greater value of money in those days, would probably be about equal to 65*s.* the quarter at the present time. Shortly after the commencement of the last great war the pivot was raised, and when the price was below 63*s.* per quarter, the duty on foreign wheat was 30*s.* 3*d.*, falling to 7½*d.* when the price reached 66*s.* These duties were advanced soon afterwards, and in 1815, Mr. Robinson succeeded in passing an act absolutely prohibiting the importation of foreign wheat until the price in our markets had been, for three consecutive months, above 80*s.* per quarter. Another law was passed in 1822, prohibiting the importation of foreign wheat when the prices were at or under 70*s.* per quarter; admitting it when between 70*s.* and 80*s.* at a duty of 12*s.*; when between 80*s.* and 85*s.*, at a duty of 5*s.*; and when above 85*s.* at a duty of 1*s.* This law, however, never came into effect, as it was provided that its operation should be delayed until wheat rose above 80*s.* per quarter, which did not occur before another alteration took place. Early in 1827, Mr. Canning brought forward a series of resolutions for the purpose of forming them into a corn law. He proposed a sliding scale, nearly similar to the one afterwards carried by the Wellington cabinet, and which remained in force until Sir Robert Peel's bill in 1842, which now regulates the admission of foreign corn.—*English Paper.*

An Experiment with diseased Potatoes.

The *New England Farmer* copies the following from the London Agricultural Gazette:

I have great satisfaction in giving the result of an experiment that I have instituted here, amongst others, which has proved in every way effectual in stopping the progress of the disease; and if the disease has not gone so far as to have affected the whole of the skin, or outside of the potatoe, and consequently destroyed all the eyes, will render them safe to be used as sets for a future crop.

The potatoes were carefully sorted, keeping the sound ones separate from those that were diseased, some of the latter being so bad that their whole surface was affected with it, and a tally put to each sample, denoting their particular condition. A quantity of the common quick-lime of this neighbourhood being put into a large shallow tub, water was added in the proportion of about three gallons to every stone—14 lbs.—of lime, and well mixed; the potatoes were put into a wire riddle, and just dipped into the mixture, keeping it well stirred, until all were done. This was in November: a few of each sample were put into a hot-house, to see what effect the lime had on their eyes. They soon became excited, burst through the lime, and produced vigorous sprouts. A few of each were also boiled, but their flavor was not in the least affected.

The effect of the lime is evidently to arrest the disease at once, by its powerful caustic or antiseptic property, and it absorbs from the tubers the superabundant moisture which they contain, and consequently prevents further decomposition. Having frequently examined them, I can confidently assert that the disease has not made any progress whatever since the application. They were affected with the disease in every stage of its progress, between the sound and rotten potatoe, and in every case it has proved effectual in stopping it, as is easily seen when they are cut; while those of the same sorts, not subjected to the process, and placed exactly under the same circumstances, show every sign of progressing decomposition, and some have entirely rotted.

The advantage and importance of this remedy, are, therefore, very great, as the diseased potatoes are rendered fit for sets. I shall have no hesitation in planting them in the spring for a general crop, and in fact, intend them for this use.

I would strongly recommend the process to be at once adopted by any person who has any unsound potatoes in his possession, as I feel confident it will put a stop to the progress of decay.

I would also recommend every person to dip his sound potatoes, intended to be planted, in the same mixture, only adding about one-fourth more water to the same quantity of lime.—*Joseph Paxton, Chatsworth, Dec. 30th.*

Simple Method of Filtering.—The waters of the Wangho and Yang-tse-kiang, in China, are highly surcharged with mud, the former containing one-seventeenth part, and the latter one ninety-sixth of earth. This renders them both unpleasant and unwholesome to drink. Cunningham, the writer, informs us that the Chinese have adopted a very simple remedy for this evil, which it behoves any one who may chance to visit muddy streams, to remember. Into about a quart of water they throw a small pinch of alum, leaving it to stand a few minutes; it becomes as clear as crystal, a considerable sediment being found at the bottom. The poorest fisherman is always provided with a small portion for this necessary purpose.

Papers read at a late Meeting of the Farmers' Club.

Professor Liebig has justly attained a high standing in that part of human science, which relates directly to the important art of providing food from the culture of the earth. It is desirable that such parts of his work as are plain to ordinary comprehension should be as extensively circulated as possible. The whole work requires previous knowledge in a reader to be duly understood. We will make occasional extracts which to us seem best suited to our common farming pursuits. Liebig says:

"It must be admitted as a principle of agriculture, that those substances which have been removed from a soil must be completely restored to it; but whether this restoration be effected by means of excrements, ashes or bones, is in a great measure a matter of indifference.

"The time will come when plants growing upon a field will be supplied with their appropriate manures prepared in chemical manufactories! When a plant will receive only such substances as actually serve it for food—just as at present, a few grains of quinine are given to a patient afflicted with fever, instead of the ounce of wood which he was formerly compelled to swallow in addition."

Artificial Manure by Liebig.—An address to the agriculturists of Great Baitain, explaining the principles and use of his artificial manure, by Professor Justus Liebig.

In Muspratt & Co's preface it is stated that this eminent chemist has obtained certain compounds, which are of such a nature that different states of moisture in the atmosphere, in different localities, will not diminish their efficacy. That he has found means to give to every soluble ingredient of manure by its combinations with others, any degree of solubility without altering its effect on vegetation. He gives for instance the alkalies in such a state as not to be more soluble than gypsum—the mixture of the manures has been adapted to the mean quantity of rain in England. The manure which is used in summer has a greater degree of solubility than that used in winter.

Taking the importation of bones for the last ten years at one million of tons, in which phosphoric acid is supplied in sufficient quantity for twenty-five million tons of wheat, to have increased the fertility of the fields in the right proportion, eight hundred thousand tons of potash ought to have been added to the million tons of bones in a suitable form.

Experiments of Bouissingault.—For centuries in Hungary, wheat and tobacco have been cultivated on the same field without any supply of nitrogen. Is it possible that this nitrogen can have had its origin in the soil? Our forests of beech, chesnut, oak, are rich in nitrogen. The source of it can only be in the atmosphere.

From the known quantity of common stable manure which Bouissingault put every five years upon his field—four Hessian acres—he estimated by the chemical analysis of the manure, the total quantity of nitrogen furnished for the rotation of the five years. The result was, on nice examination, that the nitrogen used up by the crops did not come from the atmosphere, and that all the plants got, was from the manure. But some plants do obtain their nitrogen from the atmosphere, and Bouissingault says they are the leguminous plants. Liebig does not agree to this doctrine. The meadows of Holland for centuries have produced millions of hundreds weight of cheese—all this does not diminish the productiveness of the meadows, although they have never received more nitrogen than they originally contained. Hence we cannot augment the fertility of our fields by manures rich in nitrogen or with ammoniacal salts alone. The crops diminish or increase, in exact proportion to the diminution or increase of the mineral substances conveyed to it in manure.

With respect to ammonia, the experiments of Faraday prove that there is an unknown cause of the formation of ammonia. That as it is known that it is a constituent of air; that it is present wherever air is found; that it is a coercible gas which is condensed on the surface of solid bodies in much larger proportion than air, and further, that it exists in distilled water; these and other still more incomprehensible experiments of Faraday are explained in a simple manner.

For on examination of rain water it was found that out of 77 analyses made of rain water of thunder-storms, 17 contained more or less of nitric acid, partly in combination with lime, and partly with ammonia. In the other 60, only two contained traces of nitric acid. But it does not appear from careful analysis made by Bouissingault in South America, where heat and thunder-storms are abundant, that more nitric acid exists in those waters than in the temperate zones, where from eight to ten thunder-storms are an annual average.

The sun-flower and tobacco, and some other plants contain considerable quantities of nitric, while other plants on the same soil have none.—*New York Farmer and Mechanic.*

Extracts from an Address

Before the Agriculturists' and Mechanics' Association of Louisiana, January 5th, 1846; by T. B. Thorpe.

"The foundations of productive wealth, may be said to rest upon the pursuit of agriculture and the perfection of the mechanical arts. Commerce, superficially, seems to be productive over the tilling of the soil, yet it is not the case. There is something attractive about the large city, the crowd of ships, the well-filled stores, and the state of the successful merchant, that belongs not to the more quiet pursuit of agriculture. The wealth of the soil, however, when understood, amazes; it seems impossible, that grains and grasses, that so quietly perfect in the sunshine and rain, should bear among their trembling leaves, value, that the ever-yielding mines of Golconda and Potosi cannot purchase. The value of all the commerce Great Britain has with our country, is shown to be worth only 'her annual crops of oats and beans;' and 'the whole foreign commerce of Great Britain, in the pursuit of which she overshadows the ocean with her fleets, and plants her colonies in the most distant islands, is actually less in value than the annual grass crop of the British Islands.'

"Louisiana contains within her territory, we should judge, nearly as much cultivatable land as the Island of Great Britain, and by a moment's reflection, we can form some crude estimate of the capability of our State for great wealth. It is a startling thought, and yet it is a true one, that the whole population of the Union might comfortably subsist within the limits of Louisiana. We have been singularly blessed by Providence with every possible advantage. Our country is naturally level beyond the attempt of art; it is encircled and threaded by running streams, that need but little care to form them for every purpose of internal navigation. Upon our Southern coast, washes the sea; through our centre runs the great Mississippi. Our soil is beyond comparison, rich; our climate is free from the heats of the more tropical latitudes, and also free from the frigid blasts.

"The immense resources of our State are almost as undeveloped as they were on the discovery of our continent. We may be said to carry on our agricultural, and until recently, the mechanical arts, with almost rude simplicity. We have done, comparatively speaking, nothing for their improvement. There has been no concentrated action, no intelligent discussion among our citizens for the general good. The planter has pursued his business, his plantation his little empire, and beyond the lines of his own boundaries, he has seldom gone in pursuit of pleasure or information.

"Agriculture finds a right hand in the mechanical arts. The genius of Whitney added to the value of cotton a thousand fold, by reducing its price and extending its cultivation. The intelligent action of the never-tiring spindle, gives to the richest and poorest of our citizens an apparel that kings could not command, in the historically glorious days of Alfred or Charlemagne. The researches of Packwood and Rilleaux have made sugar, beyond question, a permanent, profitable, staple of our State. Science has overcome the disadvantages of climate, the vacuum-pan detects sweets in the frosted cane, that a few years ago was left in the field as worthless.

"The mechanical arts assist and ameliorate agricultural labours, from the mighty steam-engine, with its multifarious offices, through every contrivance, down to the simple gin-band. In the support of this Association will the mechanical arts find the fittest place for representation. Here should be annually exhibited its improvements, and its new offices. Here should be displayed its wonderful results, and the busy hum of its wheels, as it performs its various functions, should here greet the assembled citizens of our State."

Potatoe Jelly.

THE readiness with which a good-sized basin-full of thick jelly may be procured from a single moderate sized potatoe, is a fact worth knowing. I have several times repeated the experiment, and find that it does not require more than eight minutes to change a raw potatoe into a basin full of most excellent jelly, which has only to be seasoned with a little sugar, nutmeg, and white wine, to please the most fastidious palate. To obtain this jelly in perfection, let a potatoe be washed, peeled, and grated; throw the pulp thus procured, into a jug of water and stir it well. Let this stand for a few minutes, and a sufficient quantity of starch will fall to the bottom for the purpose required—pour off the water, and then keep stirring up the starch at the bottom of the basin, while boiling water is poured upon it, and it will soon and suddenly pass to the state of a jelly. The only nicety required is to be careful that the water is absolutely boiling, otherwise the change will not take place. Mr. Darwin has recorded an instance of some of his attendants being unable to boil potatoes

above a certain height on the Cordileras, owing to the diminution of pressure not allowing the water to become sufficiently heated before it boiled. There may possibly be some connexion between the conditions under which potatoes can be boiled, and their starch converted to jelly. Upon comparing this jelly with that from the starch called arrow-root, and obtained direct from Bermuda, I find a difficulty in my own person in discriminating between their flavour, though an invalid in the habit of eating arrow-root. The difference, however, becomes more sensible when both jellies are made palatable with sugar, &c., for then, both the invalid—myself—and another person were equally decided in our preference of the jelly from the potatoe to that from the arrow-root, the latter possessing rather a mawkish flavour, as though it had been prepared with smoky water. I know not whether medical men are able to point out any real difference in the composition of starch obtained from potatoes and that from the arrow-root, or whether past experience has shown them that the one is a more nutritious food for the invalid than the other; but, certainly, arguing *a priori*, and with no wish to give them an opportunity of trying the experiment upon myself, I am inclined to think, that sending to Jamaica for arrow-root starch, at 2*s.* 6*d.* to 3*s.* a pound, is a most superfluous extravagance, whilst we can manufacture that from potatoes at home for about ½*d.* or a 1*d.*—*Ex. Paper.*

From the North Carolina Farmer.

The Old North State, *versus* Oregon and Texas.

Mr. Editor,—

Sir,—We do not boast of "*tall things*," as do some of our neighbours in this vicinity, but we believe we can tell a story equally important and interesting to our brother farmers of the "Old North State."

I have this day finished housing my corn crop, and I find that, from the labour of sixteen hands, I have made twenty-four hundred barrels—12,000 bushels—of good merchantable corn, besides other crops, the larger part of which crop was made on redeemed swamp lands, which have been under cultivation only three years.

Of such land as this the State has thousands of acres in this county, which the Literary Board would be glad to sell at a very low price, and which, if brought under cultivation, would, under favourable circumstances, yield an annual income of twenty to twenty-five dollars per acre. If our friends in the western part of the State were fully aware of the value of these State lands, and the pecuniary advantages offered to purchasers, instead of leaving our good old State and emigrating to Oregon, Texas, or California, we should find them wending their way to the east, to reap from her generous soil the rich reward of their labour. We invite our friends of the western part of the State who have been casting a longing eye to the "Far West," to come and see if some good things may not be found in "Old Hyde."

David Carter.

Hyde co., N. C., Jan. 14th, 1846.

The Voice.—Voice is one of the most striking evidences of the Creator's power. How wonderful it is that so many millions of persons should exist, and no one voice should exactly resemble another. To our finite ideas it appears reasonable that the same organs should produce the same sound: it is thus in other animals; in birds and in music; but for man's convenience and increase of pleasure, it is otherwise; the great and beneficent Creator, in his labour for our comfort and happiness, has not overlooked the sound of a voice. Of all the variations of which the human voice is capable, perhaps it is never so grateful to the ear as when venting itself in sympathy; the utterance of gratitude is pleasing when we may have been so happy as to have it in our power to confer a favour on another, but from it we would oft times escape; the tones of gladness may intrude in our melancholy moments, and increase, instead of lighten, our sorrows; the voice of praise may even pain, for we may fear it to be flattery, or feel it to be undeserved—the utterance of pity may wound where it is intended to heal, but that of sympathy must make its way to the heart. There is something in our natures which seeks a corresponding feeling, let that be either of joy or woe.

Lime has been used in agriculture many hundred years, and on every variety of soil, and always with beneficial effects, when judiciously applied. In England, recently, large tracts of country, which had been rented with difficulty at five shillings per acre, have been rendered worth thirty or forty shillings per acre, by the application of lime alone.—*Southern Agriculturist.*

When the weather is pleasant this month, prune your grape-vines.

Coal Ashes.

Conversation at the Farmers' Club, from the N. Y. Farmer and Mechanic.

Roswell L. Colt, of Paterson, requested Mr. Wakeman to call the consideration of the Club to the question, whether the ashes of Anthracite and Bituminous coal are useful as a manure?

Dr. Underhill, of Croton Point.—I have thought of that for some time. It is important to decide, for the quantity of the ashes is great and greatly increasing. I have tried experiments with the ashes, and found little benefit, except on my tomatoes, planted in a sandy, gravelly soil; on these the benefit was very striking—on other plants I noticed but little effect.

Mr. Meigs.—Analysis shows that the ashes of the Anthracite coal is composed of some fifty-three per cent. of silex,—flint—and thirty-six of Alumina—clay—some magnesia, iron manganese. On a clay soil the silex would be useful—on a sandy soil, the clay would be so. Pure beach sand is well applied to clay soil—the benefit is chiefly mechanical. The particles form that degree of looseness in soil which permits the more delicate roots to penetrate. A very small portion of this silex—flint—is chemically developed in the external coverings of the stems of wheat, &c. This wonderful coat of flint, surpassing in its delicate formation, all human conception, is necessary to defend the interior of the plant, and sand should be put upon and mixed with certain stiff clay soils, and clay upon the sandy soils.

Mr. Wakeman.—Read Johnson's Analysis of the coal ashes, containing like results.

Dr. Field.—I have considered the coal ashes to be very worthy of notice. They have been neglected. They contain no article that it is not useful—acting chemically as well as mechanically in the growth of plants. They are good absorbents of the gases from the air, and in kindling these coal fires a large quantity of wood is necessary, the ashes of which, mixed as they are with the residuum of coal, are fertilizing. Thomas Addis Emmett of New York, uses coal ashes with great benefit to his soil, which is heavy, wet, requiring drainage. He has a highly cultivated garden in which the ashes are used.

Degeneration of Potatoes.

It has been repeatedly asserted that the reason why the potatoe is now suddenly attacked by a malady, which at one time threatened its extinction, is that it has degenerated; and on all sides we hear of recommendations that new varieties of the potatoe should be immediately raised from seed.

In this, as in all other matters, it is easy to make assertions; but before we give assent to them, we must ask for some proof of their truth. Do the gentlemen who clamor for new varieties, know which are the old varieties now cultivated, and which the new? Have they any proof that the old varieties have suffered in any peculiar degree, or that the new varieties have escaped? Can they point out any one instance among potatoes in which facts support their views? We think not.

Dr. Maclean, a gentleman skilful in all horticultural affairs, raised but the other day, a seedling potatoe of great vigor and excellence: its production is so recent that but few persons yet possess it at all. With this variety, a portion of an old meadow newly trenched over, near London, was planted in the autumn of 1844 and spring of 1845: no manure being used. The crop was so much attacked by the disease, that not a single potatoe was found worth preserving.

In reality there is no proof in any part of the vegetable kingdom, that the races of plants wear out. Such an opinion was entertained, indeed, by the late Mr. Knight, and his views have been adopted by some physiologists. Yet there is not only no proof of their correctness, but the strongest presumption to the contrary. It is superfluous to say, that the Golden Pippin apple is the instance on which this theory mainly turns. It is said that it has worn out, and can no longer be cultivated. But the Golden Pippin still appears abundantly in Covent Garden market; trees as healthy as ever are to be found in this country; we ourselves have seen it in Ireland, where there are no symptoms of its decrepitude, and in Madeira it is in robust health. The wearing-out theory, therefore, falls to the ground.—*Gardeners' Chronicle.*

Early Potatoes.—One word on a mode of planting potatoes for very early crop. I cut off the crown of the potatoe—where the most eyes are—about one quarter of the potatoe; these I put in boxes at this time of year, with earth about as deep as we commonly plant them. I eat the other parts of my potatoes. These crowns put out roots—begin to vegetate, and as soon as I can set them out in the open air, I do so, and have potatoes from them for my table by the middle of June, nearly one month earlier than common.—*Farmer and Mechanic.*

Introduction of the Alpaca into the United States.

We have observed with pleasure the intention of the American Agricultural Association, at the suggestion of R. L. Pell, of Ulster county, to introduce the Peruvian sheep, or Alpaca, into the United States. This animal inhabits the slopes, table lands and mountains of Peru, Bolivia and Chili, enduring all the vicissitudes of climate. They are found 12,000 feet above the level of the sea, where they derive a subsistence from the moss, &c., growing upon the rocks, exposed to all the rigors of the elements, and receiving neither food nor care from the hand of man. The shepherd only visits them occasionally; yet such are their gregarious habits, that the members of one flock seldom stray away and mix with another, being kept in discipline by the older ones, who know their grounds, and become attached to the place of their nativity, to which they return at night, evincing an astonishing vigilance and sagacity in keeping the young ones together, and free from harm. Hence there is no need of branding them. So great is the intelligence of some leaders of a flock, that much value is on this account attached to them by their owner,—part of whose duties they perform. These animals, says William Walton, are found on the snow-capped mountain Chimborazo, 11,670 feet above the sea. In this tropical region excessive heat is experienced in the month of August during the day, and towards evening the thermometer regularly falls many degrees below the freezing point, and the next morning rises from eight to twelve degrees above it,—all of which great changes they endure perfectly well. In other parts of the Andes mountains, during half the year snow and hail fall incessantly; whilst in the higher regions, as before noticed, every night the thermometer falls many degrees below the freezing point, and the peaks consequently are constantly covered with an accumulation of ice. The wet season succeeds, when lightning flashes traverse the clouds in rapid succession, followed not by showers, but by torrents of rain, which after collecting, fall headlong from the rocks, leaving the slopes almost bare of soil, and spreading desolation wherever they pass. Still the Alpacas abound and thrive. Their teeth are so strong that they can easily crush and masticate vegetable substances too hard and tough for ordinary cattle. In the formation of their stomach they resemble the camel, and can undergo extreme hunger and thirst. Their meat is tender, wholesome and savory, and in that country is recommended by physicians to invalids, in preference to fowls—for all declare that their meat is extremely wholesome, and as palatable as that of fat sheep in Castile. Mr. W. further remarks, that in his time there were shambles in the Peruvian towns where it was constantly sold. The quality of Alpaca meat could not fail to be good, when the cleanliness of the animal and nature of its food, and neat and delicate manner in which it feeds, are considered. They eat the purest vegetable substances, which they cull with the greatest care, and in habitual cleanliness surpass every other quadruped. The hardy nature and contented disposition of the Alpaca, cause it to adapt itself to almost any soil or situation. The best proof of its hardiness is its power to endure cold, damp, hunger, and thirst,—vicissitudes to which it is constantly exposed on its native mountains; while its gentle and docile qualities are evinced in its general habits of affection towards its keeper.

No animal in the universe is less affected by the changes of climate and food, nor is there any one to be found more easily domiciliated than this. Another remarkable feature in the Alpaca is, that it does not transpire; for which reason, and its peculiarly cleanly habits, the fleece does not require washing before it is taken from the back. Although often confined to regions where

> "Snow, piled on snow, each mass appears
> The gathered winter of a thousand years."

The Alpaca is free from all diseases incidental to common sheep. The chest is guarded by a collosity which comes in contact with the ground while the animal reposes, and protects it from catarrhs, or other disorders disabling the limbs. In whatever point of view we contemplate the properties and habits of this animal, it will be found suitable stock for all our western and northern States; waste and unprofitable pastures would suffice them; they would browse on wild grasses and herbage that sheep and cattle reject.

They will yield 12 to 15 pounds of wool, which is suited for the finest class of goods, and calculated to compete with silk. It is almost as fashionable now as that fabric, being worn by her Majesty Victoria. In 1834 the quantity of Alpaca wool imported into England was 5,700 lbs., valued at $16 per quintal—in 1842, to July 9th, 1,200,000 lbs., valued at $25 per quintal—up to 1844, 8,657,164 lbs. were imported into Liverpool alone, valued at $30 per quintal. In France the wool is used instead of Angora for cashmeres and merinoes. It has been proved to

be admirably well suited for mixed goods; and so firmly is its reputation now established, that there is every certainty of a growing demand, to meet which an additional quantity will annually be required. It is supposed that owing to neglect of the inhabitants of Peru, there has been an enormous decline in the number of Alpacas, which will eventually render them difficult to be obtained. We would therefore urge strenuously gentlemen of wealth—manufacturers—merchants—and agriculturists—and in fact all who feel an interest in the welfare of the country, to come forward at once and assist the Society in an undertaking so worthy of all praise. We understand the cost of bringing out three hundred will be $10,500, delivered in New York; of which sum three thousand have already been promised. We sincerely hope those engaged in an enterprise so noble will not allow the matter to flag.—*New York Journal of Commerce.*

For the Farmers' Cabinet.

Ploughs--Ploughing.

Mr. Editor,—That Mr. Paschall Morris's theory on cultivation is correct, we have the fullest evidence in his crop of 110 bushels of corn to the acre—see page 115—while the very apt observation in your editorial—see page 225—at the conclusion of the article by "Josephus,"—"A man's own experience on his own crop and on his own land, is certainly preferable to that of others on other land, and consequently, under other circumstances," sustains him in his position.

But he should inform your readers of the cause of the difference between the Moore Plough and the Prouty Plough, to which he attributes much of his success; while the remarks of your correspondent Mr. Stapler, go to prove the fact, seeing that "others who had planted their corn as *well*, and had tended it *better*," were far short in produce. Now the difference is just this: the present "improvement" in the Moore Plough—for it is by no means his plough of the last year or the year before—lies in the concave mould-plate, which, as has elsewhere been remarked, operates upon the principle of the screw, and can only lay the furrow smooth, not being adapted either for ploughing deep and heavy soils, or pulverizing the land. It is, in fact, the Beech Plough in principle; with which so many are acquainted, and which has long been in use in the light lands of Jersey: but let any one go over to Samuel Rogers's farm at Mantua Village, and examine the corn ground that was ploughed by the Prouty Plough during the three days of the Philadelphia Exhibition, with a furrow fifteen inches wide and eight or nine inches deep, and he will *see* the difference, for he will find the land lying so light and dry, after a winter's exposure, as to admit of cropping long before any other land in the neighbourhood can be entered upon.

Permit me in conclusion to observe, there is one crop which your correspondent "Observer," has not enumerated, for which the Prouty Plough is peculiarly well adapted—I mean potatoes. Let the farmer spread his land with manure, throw out a furrow, and plant his sets after the plough, and afterwards, in every alternate furrow, say at 23 or 24 inches apart, raking the manure from the next two furrows in width on the sets—which will then have all the dung—spread the surface after planting with lime, and harrow the land just as the sets appear above ground, flat hoeing the crop once afterwards, and all is done until taking up, for which the Prouty Plough will be found by far the best implement that can be adopted; the potatoes rolling out after the plough like eggs out of a basket, and saving one-half the labour in cultivation. W. D.

West Philadelphia.

Productions of the West.

The last number of the St. Louis Price Current contains some important statistical matter relative to the productions of the West, from which we condense the following information.

Tobacco.—The crop of the past season was probably superior to any ever produced in Missouri, and cultivators were well paid for their labour, as prices ruled high throughout the season.

Lead.—The production of this article is rapidly on the increase. The shipments from the Galena mines alone, the past year, amounted to 778,461 pigs, being an increase of 156,560 pigs over the previous year. The increased production at the lower mines has been in an equal ratio—the total product being estimated at 150,000 pigs. The actual demand has kept pace with the increased production; and the stock on hand at the close of the year amounted to only 34,500 pigs, which has nearly all changed hands, and is now on board to be sent forward on the opening of navigation.

During the past year it opened at $3.15 a 3.20, and closed at 4.00 a 4.12½ per hundred. In the latter part of May the market became depressed, and rates receded to 2.95 a 2.98, but soon after recovered, and with occasional

slight checks, continued to maintain an upward tendency, until it reached present rates, say 4.00 a 4.12½ per hundred, with but a few pigs on sale. The total receipts from the Galena mines for the past five years, were as follows:

In 1841	463,404 pigs.
1842	473,599 "
1843	584,431 "
1844	621,900 "
1845	757,906 "

Wheat.—The crops of 1845 in this section—embracing the States of Illinois and Missouri, the territories of Iowa and Wisconsin—have been remarkably good, better both in quantity and quality than any crop since 1842. The quantity produced the past year in this section is, however, greatly over estimated by some of the Eastern papers—setting that of Illinois alone at eight million bushels for *export!* when the truth is, the State did not *produce* this quantity. The quantity of wheat received here this season, up to the 1st inst., is 986,096 bushels, and at the same period last year 808,738 bushels. We predict a great demand for this staple on the opening of navigation in the spring, but at lower rates than have been paid for some time past. This demand will be principally from the Ohio river, as it is now a well ascertained fact that the crop of that State—Ohio—is very little over what it was in 1844. The markets of Europe will not begin to *feel* the *want* of wheat and flour till April or May, and by that time the actual deficiency of bread-stuffs in all the Continental markets will have developed itself. The quantity of wheat here is estimated by some at 200,000 bushels! Our own opinion, founded upon considerable inquiry, is that there are not over 70 or 80,000 bushels in the market, including all in the millers' hands, and we question whether true statistics can make it over 50,000 bushels. The comparative receipts for the past three years, were as follows:

	bbls.	sacks.
In 1843	70,777	131,427
In 1844	54,887	257,632
In 1845	77,150	382,323

Pork and Beef packing.—The season opened late, and operations have been much retarded by bad roads and the impassable state of the river, checking the free arrival of the raw material, yet some 12 a 14,000 hogs and 23 a 2500 beef cattle have been packed, and from engagements already made, it is estimated that the entire business of the season will amount to near 25,000 hogs, and 6,000 head of beef.

Air Churn.

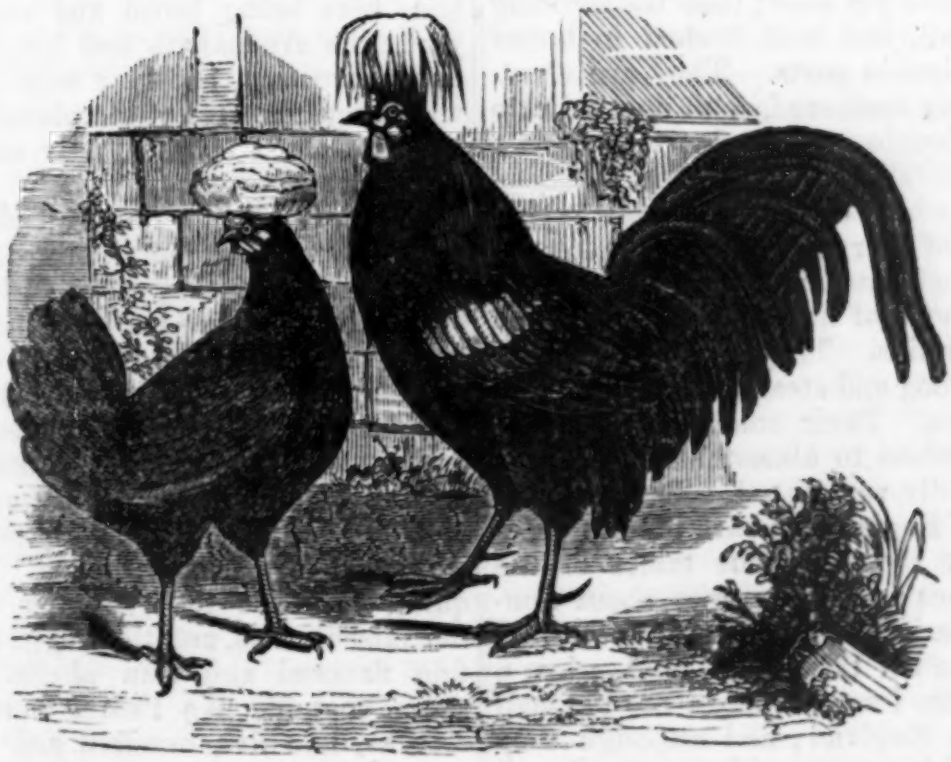
The Bishop of Derry has invented an atmospheric churn. Instead of the present unscientific mode of making butter by churning, his Lordship accomplishes this measure by the simpler manner of forcing a full current of atmospheric air through the cream, by means of an exceedingly well-devised forcing pump. The air passes through a glass tube connected with the air-pump, descending nearly to the bottom of the churn. The churn is of tin, and it fits into another tin cylinder provided with a funnel and stopcock, so as to heat the cream to the necessary temperature. The pump is worked by means of a wince, which is not so laborious as the usual churn. Independently of the happy application of science to this important department of domestic economy, in a practical point of view it is extremely valuable. The milk is not moved by a dasher, as in the common churn; but the oxygen of the atmosphere is brought into close contact with the cream, so as to effect a full combination of the butyraceous part, and to convert it all into butter. On one occasion the churning was carried on for the space of one hour and forty-five minutes, and eleven gallons of cream produced 26 lbs. of butter.

Effects of Crossing on the Constitution.

Those classes of the human race which preserve their blood free from mixture with strangers, while they have less variety in external appearance, and perhaps less variety in the scope of mental capacity, than those who cross and recross at pleasure, have more endurance in action, firmer attachments to purposes, and less desultory impetuosity. This is a physical truth. The explanation of it is difficult; but it may be illustrated and comprehended in some degree by those who study the animal fabric, and who are acquainted with the laws of animal economy. In brute animals—horses, sheep, and cattle—the mixture of different races is observed to change the qualities, to improve the beauty, and to enlarge the size; it diminishes the hardiness and the security of the physical health. In man, the mixture of different races improves beauty, augments the volume of the bodily organs, and even perhaps expands the sphere of intellect. It diminishes the power of enduring toil, and renders the habit more susceptible to the causes of disease.—*Jackson's Economy of Animals.*

DORKING FOWLS.

POLAND FOWLS.



The Dorking is a valuable and favourite variety in England, and takes its name from a town in the county of Surrey, where the breed is supposed to have originated, and where, and in its vicinity, they are still said to be found in great plenty and perfection. They have been but little known and scarce in this country until within a few years.

In size, Mowbray says, they rank in the third degree, in the largest of our fowls; well shaped, having a long capacious body and shortish legs, and should have five claws on each foot. This is a distinctive mark, but of no advantage, but probably tracing their origin to the Poland; as it is said a Poland cock with a common white hen, will occasionally produce a similar bird. The absence of a fifth claw is not, however, considered a proof of a spurious breed. The genuine colour is of an ivory white; the flesh is good flavoured, of a yellow or ivory shade, and highly esteemed.

From the specimens we have seen, we have no reason to believe that *colour* is any

criterion of purity. The first we ever saw was a pair presented to us by Dr. Wright, of Boston, which he imported. The hen was of an ivory white, and the cock was a lead or hawk-coloured fowl. Since then we have seen some bred by Mr. Allen, of Black Rock, and Mr. Chapman, of New York, which were of various colours, but generally speckled. Our portraits were sketched by Mr. Rotch, from specimens in his yard, one of which was imported.

A gentleman in Boston, who has paid considerable attention to the rearing of poultry, says: "So far as my experience has gone, the Dorkings are *decidedly* the best breed for laying; the eggs come abundantly, and are of the largest size, except when they have been bred 'in-and-in,' too much. I have already seen the effect, and therefore hope to receive a new lot of Dorkings during the summer."

L. F. Allen says, in the American Agriculturist, "The Dorking is a fine large bird, weighing, when at maturity, five to eight pounds. They are large bodied, and of better proportion, according to their size, than any breed I have yet seen; their bodies being very long, full, and well fleshed in breast and other valuable parts. They are short-legged, thickly feathered, with fine delicate heads, both double and single combs, and a shining beautiful plumage. The colour of their legs is white, or flesh-coloured, having five instead of four toes, the fifth being apparently superfluous, and rising like a spur from the same root as the heel toe in the common varieties. They are most excellent layers, good and steady sitters, and kind careful nurses. Their colour is various—from nearly white to almost black, many of them beautifully variegated. They are the capon fowl of England, and are bred in great quantities for the luxurious tables of the wealthy classes in the counties about London. In America they are a scarce bird. I never saw one till the fall of 1841, when a friend by whom I sent, brought me out half a dozen from England; and although they were but chickens when they arrived, and from their long confinement on the voyage, miserably poor and full of vermin, they rapidly improved, commenced laying during the winter, and have thus far exceeded any other fowls I ever kept, in their good qualities. The young have proved very hardy, and easy to rear. The males, of which I imported two, are large strong birds, and the hens are all I could desire of them. Their eggs are of a large size, clear, white, and excellent in quality. For capons, they no doubt exceed all other fowls whatever, often weighing, full grown, ten or twelve pounds. This variety I have determined to keep for my own purposes."

The Poland Fowls, as they are generally called, were, according to English authors, said to be imported from Holland. Their colour is a shining black, with a white top-knot of feathers on the heads of both cock and hen. The head is flat, and surmounted by a fleshy protuberance, out of which springs the crown of feathers or top-knot, white or black, with the fleshy King David's crown, consisting of four or five spikes. They are not thickly covered with feathers as some other breeds, and still less so with down. The true breed is rather above the middling size; their form is plump and deep, and the legs of the best sorts are not too long, and most have five claws. The top-knot of upright, white feathers, covers so much of the head as almost to blind the eyes; indeed some require clipping, or they would become an easy prey to the hawks. The contrast of this perfectly white crest with the black plumage, is truly beautiful; but the top-knot of the cock differs from his hen, hers being broad and erect feathers, while his are narrow and hanging down in every direction, but they must be perfectly white, and the rest of the plumage perfectly black; broken colours, it is said by some, show a cross breed.

Mowbray says, "the Polanders are not only kept as ornamental, but they are of the most useful varieties, particularly on account of the abundance of the eggs they lay, being least inclined to sit of any other breed, whence they are sometimes called *everlasting layers*, and it is usual to set their eggs under other hens. They fatten as quickly as any other breed, and in quality similar to the Dorking; their flesh perhaps more juicy and of a richer flavor." They are a quiet, domestic fowl, neither quarrelsome nor mischievous, and their eggs of good size, fine flavored and thin shells. Mowbray states that his five Poland hens, in eleven months, laid five hundred and three eggs, weighing, on an average, one ounce and five drams, exclusive of the shells, making a total weight of 50¼ pounds.

"The Poland is," says L. F. Allen, in the American Agriculturist, "a shining black in colour, with a beautiful white tuft on its head, a medium size, a good layer, seldom sitting to hatch; rather tender to rear while a chicken, and more thinly feathered and not so hardy in colds and storms as the common hen. In a great part of the United States it will thrive successfully, and lay as many eggs as any other fowl, perhaps more.

Its flesh is good. On the whole, a handsome and profitable fowl. There is a white variety without a feather of any other colour. These are very beautiful, but not quite so hardy as the black. There is also a splendid gold and black, or pheasant colored variety. These are scarce in the United States. I have seen several beautiful specimens imported from England; but was never able to obtain any for breeding. These colors are more propagated by the poultry-fanciers than others, and are seldom to be had of them."

Mr. Giles, of Providence, who has paid considerable attention to the subject of poultry, in a letter to the author says, "if *eggs* be the only object in view, then as far as my experience goes, the Poland fowls are the best layers, seldom if ever wanting to sit."—*Bement's American Poulterer's Companion.*

Ploughing.

The first and most general operation to which the soil is subject, is ploughing. Man must have been early taught that, in order to render the earth productive, it must be tilled; and it would be extremely curious, if the materials of such history were attainable, to trace the progress of improvement from the first instrument employed to stir the earth to the present beautiful and ingenious implement, by which acres, and miles of acres, are at pleasure inverted. It would be interesting to know how the North American Indians cultivated their corn (maize) when the country was discovered; tradition has not preserved the traces of the method which they adopted. Their implements must have been few, and of the most simple description. The smooth stones, some of which I have myself found in places known as their favourite haunts, of a wedge shape, may have been used for digging the ground for the deposit of the seed, and perhaps for keeping the soil loose round the plants: near the sea-shore a clam-shell may have answered the same purpose. Of weeds, probably they had few to contend with, as the land was new and not surcharged with manure, of which perhaps they did not know the use, since, within the memory of persons now living, farmers in the vicinity of Albany were accustomed to cart the manure from their barns on to the Hudson when frozen, and in the neighbourhood of Montreal on to the St. Lawrence, that, at the breaking of the ice in the spring, it might be carried away by the stream. Even much more recently, in some parts of the country, farmers, when they have found the piles of manure round their barns accumulated to an inconvenient size, have preferred to desert them, and build other barns, rather than be at the trouble and expense of removing these heaps. One is often amused at hearing people boast of "the wisdom of our ancestors;" and to be consistent, we should expect to see such persons adjusting the equilibrium of a bag of grain upon the horse's back by putting the corn in one end and a stone in the other.

When I come to treat of the implements of husbandry, I shall describe an English plough; at present I have to deal only with the operation itself.

I think I may say that, in England and Scotland, the art of ploughing has reached perfection, and that it is unrivalled and unsurpassable. This at least is my opinion, which must be taken at what it is worth. I cannot conceive how it can be improved; and this not in rare instances, and at ploughing matches, but I may say universally. In some cases, the work has been done better than in others; but I have not seen an example of bad ploughing in the country; I have not seen one which, in the United States, would not be pronounced superior.—*Colman's Agricultural Tour.*

For the Farmers' Cabinet.

Cattle--Philadelphia Agricultural Society.

To the Editor,—It is matter of surprise to the great body of the agricultural community within twenty or thirty miles of Philadelphia, who take no active part, though they feel interested in the proceedings of the Philadelphia Agricultural Society, to find that the Society continues to devote so large a portion of its premiums, and so much of its attention to what it is pleased to term the "improved breed of cattle,"—which, however, means the "Durhams," par excellence. It is known that of the numerous butter dairies within the verge of the Philadelphia market, scarcely one is composed of Durhams, or indeed of any of the imported breeds; and that as a general rule, they are wholly composed of the native breed of cows, with no admixture of foreign blood, except in some instances where the owners have, by way of trial, introduced a few of the Durhams, generally half-blood; but in no instance within my knowledge has the experiment been so satisfactory as to induce a continuance of the practice; nor do I know of a single instance, among the many purchases made by our enterprising farmers, or presents received from the early patrons of the Durham cattle, of full-blooded calves,

where the animals after reaching maturity have been superior for butter properties, to the common stock; indeed, in a great majority of instances, the calves so raised, though receiving extra attention, have fallen short of the average value, for dairy purposes, of the native breed. The result however, is precisely in accordance with the experiments of the amateur breeders of the Durhams. You may examine their herds, and with a few splendid exceptions, it will be found that their milch cows, when tested by the product in the pail, do not exceed in value, if they equal, the ordinary cows of the country. Almost all the gentlemen who enter upon a career of fancy breeding, endeavour to obtain an animal remarkable for milking properties, which when obtained, proves to be an exception to a very general rule. It only requires a retrospective view of the few celebrated Durham cows that have given character in this part of the country to the whole race, to prove that not one of them has ever produced, so far as we have been informed, any progeny whose yield at all approached the quantity of milk they themselves were alleged to produce. There was the celebrated cow Blossom, said to yield 36 quarts of milk per day, and 13 pounds of butter per week. There was Dairy Maid, who produced upwards of 33 quarts of milk per day, and 12 pounds of butter per week; these and other recorded performances of extraordinary Durham cows, are certainly great, but not greater in yield of butter than some native breeds; for instance, the Germantown cow and a nameless cow, both noticed in the seventh volume of the Cabinet, pages 192 and 283; but of all the progeny of the great Durham milkers, where do we hear of one that at all equals the dam? I am not aware that the owner of Blossom has ever alleged that any of her numerous progeny have rivalled her, or exceeded the ordinary product of common cows; and the energetic and enterprising owner of Dairy Maid, who for a series of years has exerted all his energies to maintain the character of the Durhams, and has been in this section of the country the mainstay in preventing them from sinking to their deserved obscurity for dairy purposes;—that gentleman, with all his ability, has been unable to produce from his numerous herd, a single cow, with the exception of Dairy Maid, whose product has been such as to be worthy of record; if he had, I am sure that even his acknowledged modesty, would not have prevented him from informing the agricultural community of so rare a circumstance. We therefore accept it as proved beyond all controversy, that the celebrated milkers amongst the Durhams do not produce calves, which, under the most judicious management, and without regard to expense, at all equal their dams. It is also well known that persons engaged in the milk business, who have thoroughly tested the properties of the Durhams, particularly the half-bloods, have generally discarded them, as being less profitable than the common stock.

These observations are not made to depreciate the value of Durham cattle, for although they have failed to realize the expectations of their admirers in relation to the pail, it is probable they will prove an acquisition to the stock-raisers of the interior, and be the means of increasing the size of cattle intended for the shambles.

The object of the present communication is not to enter into a discussion as to the merits of any particular breed of cattle, or to call out adverse statements from any of their admirers—but to call the attention of the managers of the Philadelphia Agricultural Society to the object which should be kept in view, to wit: the advancement of the farming interests of the country adjacent to Philadelphia. To show that they have somewhat failed to interest that class, look at the list of their members—active members—and see how few among them are practical farmers: by that term is meant men who really till their grounds in the sweat of their own brow;—but they are mostly gentlemen, and very liberal gentlemen too, who have acquired fortunes at mercantile or other lucrative pursuits; and who, wearied with the dull round of money-getting, have determined to improve agriculture by money-spending; but who have failed to perceive that their experiments in stock-raising and otherwise, do not influence, because they are not applicable to the condition of the great body of farmers, who have not the means to follow their example, even if they were convinced of their utility—which, however, is far from being the case. I have but few suggestions to make;—it is much easier to note the failure, than to point out an improvement; but I do submit to the consideration of the Society, whether some other course in relation to cattle, is not necessary at the annual exhibitions:—a large part of the premiums of the Society are, and have been for many years, devoted to a particular class of animals, which experience has fully proved, does not in the judgment of the farming community, meet their wants—and hence we find the interest in the cattle department, declining year by year. Whereas, in the department of agricultural implements, though obtaining but a small share of the Society's attention, as

would appear from the amount of premiums; yet as free course is given for every one to exhibit the product of his ingenuity, the greatest advantage has been gained to the community, that exhibitions of the kind are susceptible of.

It must have been gratifying to the committee having the implements in charge, to observe the great interest manifested in almost every improved implement, by the real farmers of the country. To convince every one that some change in the cattle department is requisite, it is only necessary to remark how much greater the interest, and how much larger the attendance at the trial of ploughs, by persons engaged in farming, than at any display of Durham cattle the country can produce. I. U.

For the Farmers' Cabinet.

James Gowen on Improved Farming.

Mr. Editor,—Through a sense of justice, as well as in defence of the improved system of agriculture which for years I have laboured hard to establish, I am compelled to notice the second edition of the remarks of H. S. in the last No. of the Cabinet, growing out of my communication to General Richardson.

While, however, paying my respects to your correspondent, I must confess that I am at a loss as to placing him in his proper position; sometimes I am inclined to class him among those anonymous writers whose shrewdness in screening themselves from the obloquy that would attach to them personally were they known, is *prima facia* evidence of a design to do mischief. Such persons are ever ready to depreciate the excellence which they cannot appropriate to themselves, and for the attainment of which they will take no pains nor make one bold or spirited effort—they take to the unenviable plan of decrying the practice or the virtues that lift other men so far above the narrow and selfish sphere in which they lie bound, under the chain of corroding envy or blighting prejudice; literally carrying out the policy of not only refusing to *do* themselves, but of denying to others "the luxury of doing good." These remarks may not apply to H. S., and in the spirit of a liberal charity I hope they do not; but it requires more I think than a common stock of that virtue, which in its perfection "hopeth all things," to exempt him fully from being somewhat obnoxious to the charge; else why does he make issues unwarranted by facts or circumstances, but for the purpose of bringing my practice into disrepute, and placing me in a false position before your readers! Here is a sample. He says, "my assertion is, that it is unprofitable for the farmer of Pennsylvania, east of the Alleghany mountains, to raise cattle to any extent. Mr. Gowen says I stand singularly alone in this view." I never said such a thing; for I well knew that most of the graziers and farmers purchased their stocks from the drovers—it was against this general practice that I undertook to recommend to some farmers, under certain circumstances, to provide themselves with a *thorough-bred Durham bull*, and breed for themselves. How then could I have said H. S. was singular in his assertion, if he made it, when I not only knew that the practice was common—general, but *wrote against it*, taking exceptions to its expediency and soundness? What I said Mr. H. S. was singular in, was, and I am free to repeat it, his differing with my views or advice on farming, as communicated to General Richardson. What I said was this, and every reader of the Cabinet can see for himself, and judge of the application H. S. makes of it. "I flatter myself H. S. stands singularly alone in the view he has taken, for I never wrote or advanced any thing during my agricultural career that seems to have met with such general favour from all quarters, as that communication."

In keeping with H. S.'s carelessness, is his advocacy of bestowing care on cattle, as though I had recommended a different practice; when, as may be seen, in my communication to the General, I spoke in terms of unqualified censure of neglecting the cattle, thus: "It appeared strange to me, as passing through some farming districts, to see such devotedness to raising grain, to the almost utter neglect of cattle; as far as the eye could reach from the road, nothing could be seen but grain, with here and there a cornfield, while a few stunted cattle and sheep might be seen running along the road-sides excluded from the fields, till they and the swine should have a harvest feast in the stubble." That I should by implication be placed in the category of those who abandon the cattle to "straw and the winter winds," is somewhat amusing, if not provoking.

But I could forgive H. S. all his blundering or prejudice, under whichever of these heads his criticisms on my practice may be classed, had he abstained from giving the one-sided view he did of the business on my farm. What had the expenditures on my place to do with the subject matter that claimed his animadversions, viz: "the raising of cattle and grain," as practised among

us? This was a travelling out of his way, one should suppose, for little purpose; it shows, if other proof was wanting, the deep seated prejudice against "book farming," as it is called, in common with too many of the farmers of the present day, who set their face against all experiment, enterprise, or improvement, in the business of husbandry, and who are ever ready to pull down and level all to their own grade; and here was an opportunity, by giving a one-sided view of my management, to turn my practice into ridicule, and to frighten or deter every one from advancing on the manly and generous path of enterprise and emulation, by holding up in *terrorem*, the "single item of more than one thousand dollars for *manual labour, to work a farm of one hundred acres!*" Now I dare say that this expenditure of over one thousand dollars per annum for labour alone, on my farm, has furnished many a knowing wink, and many a horse laugh at my expense, or served as the prelude to many a drowsy yawn to many, as they sat toasting their shins by the fire, thinking of nothing, except "one thousand dollars for labour alone! Prodigious! a Pennsylvania farmer to expend one thousand dollars for wages in one year!" If H. S. took leave to descant on my practice by way of illustrating its results, why did he not exhibit the other, the creditor side of the account, which he could have found in the same report that furnished him with the dreadful item of expense? Why did he not state what I produced, consumed and sold, with the improved state of my land, which is an item as fully entitled to credit as the cash I received for sales of produce, or the meat, meal, milk and butter consumed by my family. If a merchant has a ship needing repairs to make her sea-worthy, will he not charge the repairs to the ship, and is she not worth more, by so many hundred or thousand dollars as these repairs cost, than she was before they were made? Certainly she is. And why should not a farmer be allowed credit for the improved soil, substantial fencing, suitable buildings, &c., &c., which cost him time and money?

Referring your readers to the June No., 1845, for my Report to the Committee on Farms, I shall for their further satisfaction, and to give the science of agriculture something like fair play, set down the results of last season's operations on this farm of 100 acres, assuming the yearly wages at one thousand dollars.

I raised not less than one hundred and twenty tons of hay—say at eighteen dollars per ton, is $2,160 00

400	bushels	wheat, at $1	00	400 00
300	do.	rye,	80	240 00
100	do.	oats,	40	40 00
1000	do.	corn,	60	600 00
500	do.	potatoes,	75	375 00
900	do.	carrots,	40	360 00
600	do.	ruta-baga,	25	150 00
600	do.	sugar pars.	40	240 00
1500	do.	turnips,	12½	187 50

15 hogs slaughtered, weighing 45 C. at $5 per C. 225 00

Cattle, calves and pigs, sold, 347 00

Actual net sales of milk & butter, over 1,400 00

$6,724 50

independent of milk and butter, meat and vegetables, poultry and fruit for family consumption. While producing this, I maintained upon the farm upwards of fifty head of cattle, seven horses, and some thirty head of swine, and the only outlay incurred for feed during the year 1845, was about three hundred dollars for ship stuff or middlings, which was principally fed to the horses with finely cut timothy hay; and part made into slop for the swine. The *horses had no other* feed—they get *neither corn nor oats*, and the hogs when fattening, had little else but imperfect ears of corn, a little slop, and occasionally small potatoes cooked for them.

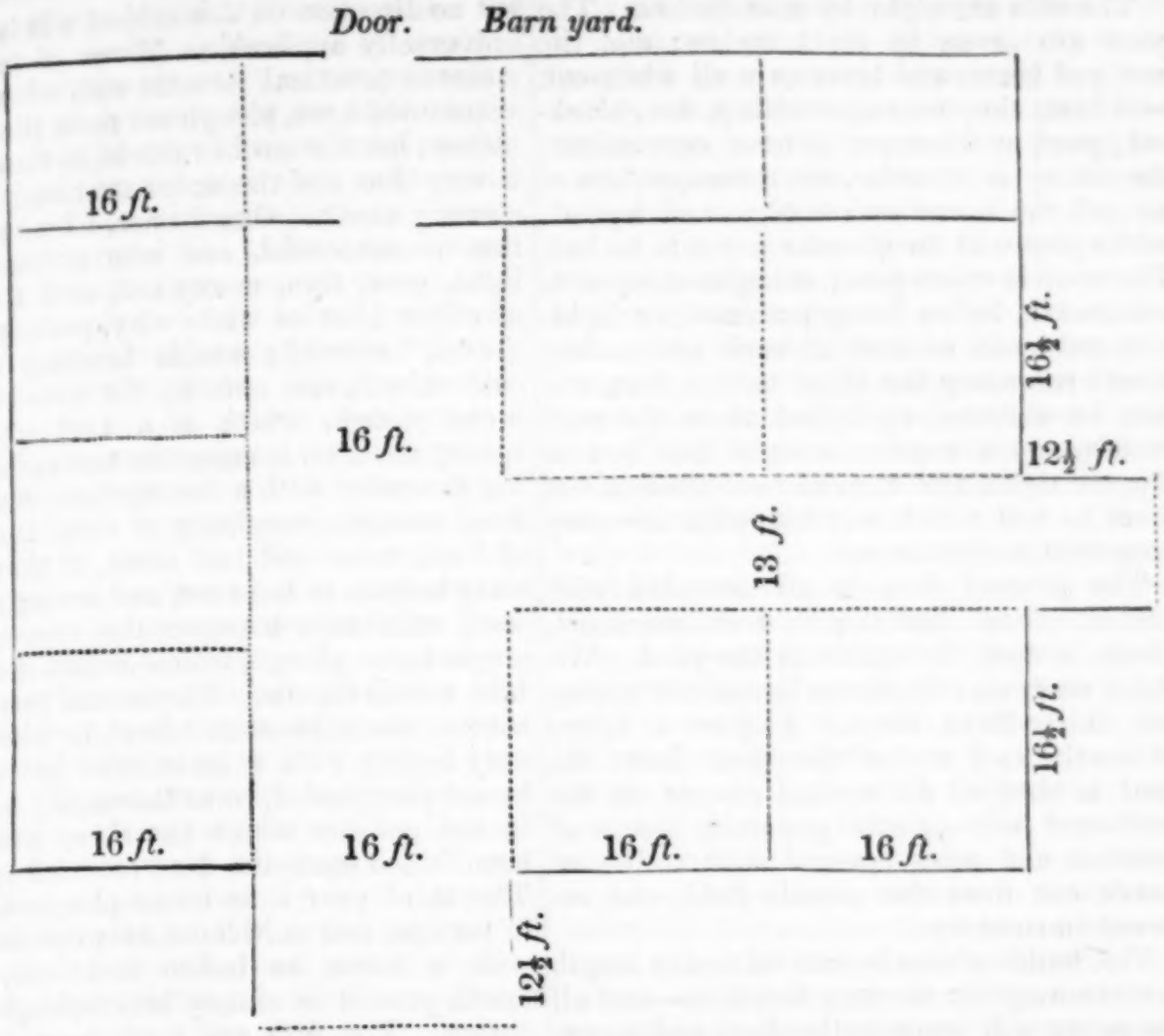
Now can H. S. or any of his brother farmers of the old and easy going school, make a better exhibit in proportion to their outlay and the number of acres they hold? If they can, I should be pleased to see it, and to be permitted an opportunity of examining into their practice, the condition of their land, the character of their stock, &c. While I here invite him to visit Mount Airy, and judge for himself. The stock now consists of 51 head of cows, heifers and calves, principally thorough-bred Durhams:—5 brood sows and 20 shoats, to be fed for next winter's slaughtering.

It was only to-day, Mr. Editor, that I observed the article of H. S. in your last No., and have hastened to reply to it, to turn aside the injury it appeared to me it was calculated to produce, if permitted to go unreproved. I disclaim all personal motive in the matter—if I make much or little by farming, that is my own affair; but that a sound practice should be subverted or set aside, is of consequence to the country and to the spirit of agricultural improvement that is now beginning to dawn upon it.

Respectfully,

JAMES GOWEN.

Mount Airy, March 6th, 1846.



For the Farmers' Cabinet.

A Good Barn.

To the Editor,—Having noticed in the sixth No. of the present volume of the Cabinet, an inquiry for a "full description of a convenient large barn, &c.," by "A New Subscriber," I concluded to say that I built in the year 1841, a barn that suits me—and I think it the most convenient one I have seen: it answers the description of the one queried after, very nearly. It is 64 feet long by 46 wide, with overshoot twelve feet wide. It is built stable high (seven feet) of stone; then frame-work above; the posts are twenty-two feet high, all thoroughly tied and braced—one drive-way sixteen feet from one end, going in the upper side and on the third floor—the barn being built upon the side of a slight hill—and entering the barn by a portico extended twelve feet from the outside of the barn, and thirteen feet wide; the door is thirteen feet high, and opens inside of the portico; the drive-way or floor is seven feet above the bottoms of all the mows, and fourteen from the stable floors; the mows are so arranged as to be all sixteen feet square, being the most profitable length to cut the timbers, ties, &c.—this floor or drive-way is sixteen feet wide, and the doors of entrance thirteen feet, leaving a notch of three feet inside the portico to stand the threshing machine upon a grated floor; the grain passing through the upper on to the lower floor, and the straw remaining above, ready to be pitched into any empty mow, from which the grain has been taken, or into one of the overshoot mows, which is kept on purpose—all the space between the floor immediately over the stables, and under the drive floor, can be occupied with cleaning the grain, granaries, chaff, potatoes, apples, &c. Another drive-way and floor enter from the other end, with doors, floor, and all thirteen feet wide and high. This drive-way runs into the one above spoken of, as shown in the cut—under the porticos are glass windows to light the middle floor; this last mentioned drive runs into the other—when done unloading a wagon we drive out at the other doors, thereby saving the inconvenience of backing out—we all the time "go ahead." By driving in on the third floor, I have two rooms below for granaries, one 16 feet by 58 feet, the other 13 feet by 32 feet, all gain over the old method; beside having seven feet below the floor all around to pitch down—this being fourteen feet below the shelvings of the wagon to fill before we pitch up any.

The sills are eight by nine inches. The posts are seven by eight inches; and the east end beams and braces are all white-oak—rafters, ties, beams, studding, &c., black-oak, gum, or whatever is most convenient; the siding is of cedar, cut three-quarters of an inch thick, one square edge, and lapped; white-pine will do if cedar is not to be had. The roof is white-pine; shingles steeped in whitewash, before being put on—two lightning-rods, one erected at each end;—they should run along the ridge twelve feet, and then be elevated eight feet above the roof, running up a wooden steeple four feet to support them, and a *good* vane upon one of them to tell which way the wind is—very important to the farmer.

The ground floor is all occupied with stables, except the twelve feet overshoot, which is open for cattle in the yard. We stable conveniently eleven horses and mules, and thirty-three cows. I give a figure as nearly as I can of the third floor: the yard is shedded all around except on the south-east side—sheds generally made of crotches and poles covered with stalks, or weeds cut from the stubble field, and removed in summer.

This building may be carried to any length—continuing the thirteen feet floor—and all the mows will come to the floor, and no extra pitching. After filling the mows then fill the end floor. Whole cost of building two thousand dollars.

MAHLON GILLINGHAM.

Near Moorestown, Burlington Co., N. J., 2nd mo., 1846.

General Rules for Ploughing.

THE depth of ploughing, the width of the furrow-slice, the number of ploughings which should be given to land, and the season at which it should be executed, depend on such a variety of circumstances, that it would be difficult to prescribe any universal rules.

The objects of ploughing are, to loosen the soil, and to render it permeable to the roots of plants, that they may extend themselves for nourishment and support; to make it accessible to the air and rain, from which, according to modern theories, it gathers both oxygen and ammonia, for the food of plants; and lastly, to give an opportunity of incorporating manures with the soil, for their support and growth. It has another object, of course, where greensward is turned over, which is, to bury the herbage then on the ground, and substitute other plants.

The depth of ploughing varies in different soils, and for different purposes. The average depth may be considered as five inches, but no direction on this subject will be found universally applicable. Three of the most eminent practical farmers with whom I am acquainted here, plough not more than three inches; but the surface mould, in these cases is very thin, and the under stratum is a cold, clammy chalk. One farmer, whose cultivation is successful, and who cultivates "a light, poor, thin, moory soil, with a subsoil of either blue or white clay, peat, or white gravel," carefully avoids breaking up the cold subsoil, and cuts up the sward with a breast-plough, which is a kind of paring spade; and after burning the turf and spreading the ashes with a due application of artificial manure, consisting of equal quantities of lime, wood and turf ashes, at the rate of sixty bushels to the acre, and sowing turnip-seed, cultivates between the rows with a single-horse plough, which cannot, of course, take a deep furrow. The second year of the course, when he sows wheat, he ploughs it very lightly with a horse, after having first breast-ploughed it, so as thoroughly to cover in the manure which the sheep who have been folded upon the land have left upon it. The third year it is breast-ploughed, sown in turnips, and cultivated between the rows with a horse, as before described. The fourth year it is simply breast-ploughed for barley. The fifth and sixth years it is in grass. Thus, in the whole course of a six years' rotation, this land is only ploughed four times by men, and three times with a single-horse plough. Another farmer in the same neighbourhood says that, upon this description of land, any other than the breast-plough would not leave the ground sufficiently firm for wheat. Mr. Pusey, M. P., whose excellently managed farm I have had the pleasure of repeatedly going over, in remarking on the above accounts, says, "Occupying similar land, I may add that I never plough it deeply, but I repent of so doing; and am falling more and more each year, by the advice of neighbouring farmers, into the use of the breast-plough, instead of the horse-plough. This manual labour is quite as cheap, for a good workman can pare such hollow tender land at 4*s*., or even at 3*s*. per acre. It is possible that the drought of our climate in Gloucestershire and Berkshire may be one cause of the success of this practice in those counties, and that the same soil, if transferred to Westmoreland, would require deeper working. Therefore, without recommending shallow cultivation in districts where deep ploughing has been hitherto practised, I would merely warn beginners against plunging recklessly into the subsoil." These examples are certainly well worth considering. I do not understand that

these practices at all militate against the doctrine of the advantages to be obtained from subsoiling. In cases where subsoiling and thorough draining are not applied, this shallow ploughing may be preferred, as the mingling of the cold and inert subsoil with so thin a surface of vegetable mould would doubtless be prejudicial, at least for a length of time; but the improvement of such land by a system of thorough draining and subsoiling is another matter, to which I shall refer in its proper place. There are considerable tracts of this moorish land—that is, a thin, black, coarse peat, not half decomposed, resting upon a cold and hard pan of gravel or clay, or what some persons have mistaken for marl, in Massachusetts, and other parts of the country, the improvement of which, so far as my experience has gone, has been almost hopeless.

While upon this subject, I may as well give the results of the management of the first farmer referred to, and therefore subjoin them. "By this mode of management, an economical system is followed up through the whole course, by being nearly all performed by manual labour, by which means a remunerating crop will be produced, and the land always kept firm, which is the only difficulty to be overcome on this description of soil. The farm, when first taken by me, was wet; as much out of condition, and as light and weak, as it well could be—parts of it being merely held together by the roots of grass and weeds natural to moory land, but which must be very prejudicial to the production of those crops that are to benefit the farmer. I commenced by draining, and then pursued the foregoing system of cultivation, by which my most sanguine expectations have been realized, though I was told that the land would be too light and too poor to plant wheat after turnips. I have never found any ill effects from paring and burning, experience having taught me that it produces a manure particularly beneficial to the growth of turnips; thereby enabling me to firm the land by sheep." This farmer speaks of performing a great portion of his work with manual labour. I think some part of it might rather be called pedestrian than manual; for, if he ploughs his land by men, he treads it out by women. He says, "Before the horse-roll can be used, I send women to tread it, and if occasion require, tread it again; after which, I have it twice hoed. I have found more benefit from this mode of pressing than any other, being done at a time when wheat, on this description or soil, requires assistance."*

I have found other farmers, who, with their wheat crops on light, chalky soils, ploughed in a very shallow manner, and then were accustomed to tread their land with sheep, in order to give the wheat plant a firmer footing; as, otherwise, in a very light soil, it might be thrown out by the wind. These cases, however, must all be deemed exceptions; and the general rule in England, where the soil admits of it, and manure is abundant, is that of rather deep ploughing. Five or six inches is the average depth; in many cases, much more than this. The loam, or vegetable mould, is, without question, the great source or medium of nourishment to the plants. Be it more or less deep, it is always safe to go to the bottom of this, and, by gradually loosening a portion of the subsoil, or lower stratum, and incorporating it with the mould, and rendering it accessible to the air and light, it acquires the nature of mould, and the whole arable surface is enriched. The deeper the soil, the more deeply the roots are permitted to descend, and the more widely they are enabled to spread themselves—unless they penetrate a substratum unhealthy from wet or the too great prevalence of some unfavourable mineral substance—so much the more luxuriant and productive is the vegetation likely to prove. The depth to which the roots of plants will go down in search of food or moisture, where the soil is in a condition to be penetrated by them, is much greater than a superficial observation would induce us to suppose. It is confidently asserted that the roots of some plants—such, for example, as lucern and sainfoin—go to a depth of fifteen, twenty, and even thirty feet. This seems scarcely credible. Red clover is known to extend its roots to the depth of three feet, and wheat to the depth of two or three feet, where the condition of the soil is favourable to their extension. Von Thaer, the distinguished agriculturist, says, "he has pulled

* This is a use to which women have not as yet been put in our "half-civilized" country. I dare say, however, many persons think that it is very well to make such clever animals serviceable; their "keep," agriculturally speaking, is somewhat expensive; and, as they have their share in the pleasure of consuming, they may as well take their part in the labour of producing. Whatever any persons may think, however, I will say no such uncivil thing; but since the celebrated *danseuse*, Fanny Elsler, returned from the United States, after a two years' tour, with a gain of twenty thousand pounds, or one hundred thousand dollars, it cannot be denied that the Americans are quite willing to pay for the use of women's feet—in a way, we admit, more elegant, tasteful, and classical, but certainly not more respectable, and not half as useful, as that of treading the wheat-ground.

carrots two and a half feet long, the tap-root of which was probably another foot in length." The tap-root of a Swedish turnip has been known to extend thirty-nine inches; the roots of Indian corn full six feet. These statements may appear extraordinary; but, by the free and loose texture of the soil, it is obvious a good husbandman will give every opportunity for the roots and their extremely fine fibres, to extend themselves as far as their instincts may prompt them.

Next to the depth of ploughing, the width of the furrow-slice is to be considered. This, of course, depends mainly upon the construction of the plough. A plough with a wide sole or base, in the hands of a skilful ploughman, may be made to cut a narrow furrow-slice; but a narrow-soled plough cannot be made to cut a wide furrow-slice, though it may sometimes appear to do so by leaving a part of the ground unturned, which the furrow-slice is made to cover. Where, as in old ploughed land, the object is solely to leave the ground loose and light, it is advisable to take a very narrow furrow. Where, otherwise, the object is to move greensward or stubble ground, and to cover in the vegetable matter, such a width of furrow must be taken as will cause the slice, as it is raised by the share, to turn over easily. This width may generally be reckoned at nearly twice the depth, though less will answer; but a furrow-slice of equal sides would not turn, but stand on end. The manner in which the furrow-slice will be turned depends somewhat upon the form of the mould-board, but more, in general, upon the skill of the ploughman. Two modes are adopted; the one to lay the furrow-slice entirely flat, shutting its edge exactly in by the edge of its neighbour; the other, to lay it at an inclination of 45 degrees, lapping the one upon the other. The former mode, where land is to be sown with grass-seed, and, as the phrase is with us, laid down, is undoubtedly to be preferred. Perhaps, in any case where a grain crop is to be cultivated, it should be preferred, as its beneficial effects have been well tested in the United States. In the United States, however, from a higher temperature, the vegetable matter thus pressed down may be expected sooner to be decomposed, and thus sooner furnish a pabulum for the growing plants, than in a climate where, in a much lower and more even temperature, the decomposition cannot be expected to take place so rapidly. In other cases, and for vegetable crops—I mean in contradistinction to grain crops—a different mode of ploughing, that is, laying the furrow-slices one upon the other at an angle of 45 degrees, or half turned over, would leave the ground more loose, as well as expose a larger surface of the inverted soil to be enriched by the air. In this way, by harrowing and rolling, the vegetable matter will be completely buried. This mode of ploughing is evidently preferred throughout the country, as I have seldom seen the sward completely inverted and laid flat, though I know the practice prevails in some counties. To avoid having any of the grass protrude itself between the furrow-slices, they have here, what I have never seen in the United States, a skim-coulter, that is, a miniature plough-share, or blade, placed under the beam, and so adjusted as to cut an edge from the furrow-slice as it is turned over; this piece so cut off, at once dropping down, and being buried under the furrow-slice as it goes over. The consequence is, that there is no grass on the edge of the furrow-slice to show itself, and great neatness is therefore given to the whole work. There is another mode of ploughing, which I have sometimes seen practised, by which the furrow-slice is not merely lifted, but may be said to be rolled over, or twisted in a sort of bag-fashion. This seemed to me to be principally owing to the concave form of the mould-board, for no workman could have done it with a straight or convex form of mould-board. It would seem to render the soil more friable and loose; but every departure from a straight line, or wedge form of the mould-board, evidently much increases the draught. The skim-coulter, to which I have referred above, somewhat increases the draught, but in a very small degree.

The great object of the English farmers in ploughing, seems to be the thorough pulverization of the soil; and they are therefore very seldom satisfied with one ploughing, but their land is repeatedly ploughed, scarified, and harrowed. They cross-plough their land, and think it desirable to reduce the sward land to a fine tilth, tearing it to pieces, and bringing all the grass, and roots, and rubbish, to the surface, that they may be raked up and burned, or carried to the manure heaps. The propriety of this practice is, in my mind, quite questionable. It would seem to me much better to turn the sward completely over, and then cultivate on the top of it, without disturbing the grass surface, leaving that, when thus turned over, to a gradual decomposition, that it might in this way supply food to the growing crop, whereas the abstraction of so much vegetable matter must greatly diminish the resources of the soil. Where, however, the field is infested with twitch grass (*triticum repens*)—in which, indeed, many of the fields in England abound to a most extraor-

dinary extent,—there may be no getting rid of it but by actually loosening and tearing it out; but where it is a mere clover ley, or an old grass pasture or meadow, the taking out and removing the vegetable matter seems to be a serious waste. Even the twitch might be managed where the crop is to be hoed, though in grain crops, its presence is extremely prejudicial.—*Colman's Agricultural Tour, No.* 5.

Agricultural Meeting.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held on the 4th instant, Alexander Johnson and T. J. Corbyn were elected members, and William A. Hayes, of Maine, an honorary member. A committee of three members was appointed to prepare a list of crops, for which premiums will be offered the approaching season.

After which Dr. Emerson remarked, that he was desirous of obtaining information on the subject of sowing timothy seed, and what season of the year it was most likely to succeed best. Mr. M. S. Powell stated that the farmers of New Jersey were very generally in the practice of sowing it on their wheat during the winter and spring, and found it to answer well. Many of the members present were in favour of sowing it at the time of sowing wheat, particularly on clay soils.

Dr. Elwyn stated that many farmers have sowed clover and timothy seeds with oats, with success. Mr. I. W. Roberts always cuts his oats before they are ripe, for the purpose of making fodder, and finds the young grass more likely to do well, than if the oats be allowed to ripen. Dr. Emerson, Mr. Harrison, Mr. Ford and others, stated that their trials of guano had resulted favourably. Dr. E. stated that seventy bushels of corn per acre had been produced on his fields, that formerly produced but seventeen to twenty bushels; the expense of manuring was from five to six dollars per acre. Wheat had been greatly benefited at a cost of $3 75 per acre, on Mr. Harrison's farm.

Mr. R. T. Potts expressed himself favourably towards the use of concentrated manures, but thought, nevertheless, we should husband all the resources of our farms. He stated that he had raised over ninety bushels of corn per acre, last year, by putting in the hills a small portion of the manure from his hen-house, mixed with lime and rich mould. Ground bones were admitted to be an excellent manure. Dr. Emerson stated that he had found great difficulty in obtaining a sufficient supply for his mill, erected in the State of Delaware; such is the demand for them abroad, that agents are employed to purchase them here from a class of persons who traverse the country for a great distance, and gather them for this market. Hundreds, he might say thousands of tons, were shipped annually to Great Britain—such is the estimation they are held in there, that their agents here monopolize nearly all that can be gathered. Mr. Gowen had seen them busily engaged receiving bones at Harrisburg, which had been collected in the country far above that place.

Extract from the minutes.

Aaron Clement, *Rec. Sec.*

Philad., March 6th, 1846.

Is Indian Corn—Maize—a Native of this Country?

This question, a highly interesting one in natural history, is sometimes asked, and without having particularly or critically looked into the matter, we have always answered that it was. Such has been our general and undoubting impression. We believe that all along our atlantic borders, it was found by the first European visitors, as constituting the staple upon which the natives depended, when the products of the chase failed. It was limited to be sure in its cultivation, not only because the forecast of the Indian was proverbially deficient, but also because his implements were necessarily of the rudest kind. The use of iron, we must recollect, was unknown, and the *spade* could only have been formed by chiselling the stone into something like a shape, that would admit of its penetrating the earth. We make the following extract from the *Farmers' Encyclopedia.*

Although America is doubtless the native country of a plant so important to her interests, still this has been a disputed point. Fuchs very early maintained that it came from the East; and Mathioli affirmed that it was from America. Regmir and Gregory have presented fresh arguments in favour of its Eastern origin. Among them is the name by which it has long been known in Europe, *Blé de Turquie;* and varieties, it is said, have been brought from the Isle of France, or from China. Moreau de Jonnes, on the contrary, has recently maintained, in a memoir read before the Academy of Science, that its origin was in America. The name *Blé de Turquie*, no more proves it to be of Turkish origin, than the name of the Italian Poplar or Irish potatoe, proves that the tree and the plant grew wild in Italy and Ireland. It can only signify that it spread from Turkey into the neighbouring countries. Its general cultivation in Southern Europe, and the production of some new varieties, proves nothing with regard to the country of the species. In favour of its

American origin, is the fact that it was found in a state of cultivation in every place where the first navigators landed: in Mexico, according to Hernandez; and in Brazil, according to Zeri; and that in the various countries it had proper names, such as *Maize*, *Flaolli*, &c.: whilst, in the Old World, its names were either all of American origin, or from the neighbouring region, whence it was derived. Immediately after the discovery of America, it was spread rapidly in the Old World, and soon became common, a fact not reconcilable with the idea of its former existence there. To these proofs, Aug. de Saint-Hilaire has added another. He has received from M. de Larranhaga, of Monte Video, a new variety of maize, distinguished by the name of Tunicata; because instead of having the grains naked, they are entirely covered by the glumes. This variety is from Paraguay, where it is cultivated by the Guaycurus Indians, a people in the lowest scale of civilization; and where, according to the direct testimony of one of them, it grows in the humid forests as a native production.

The early authors who have written about America, with few if any exceptions, mention maize as an indigenous grain. Thus Acoste, in his *Natural History of the West Indies*, calls it "Indian wheat, to make bread of," and says "that it was the only grain found in the West Indies by the Europeans: that it grows upon a long reed with large grains, and sometimes two ears on a reed, on one of which 700 grains have been told: that they sow it grain by grain, and not scattering, as is done with wheat; and it requires a hot and moist soil. There are two sorts of it," says our author, "one large and substantial, the other small and dry, which they call '*moroche*.' The leaves of it and also the reed are very good food for cattle, green; and dry, it serves as well as straw. The grain is better for beasts than barley, but they must drink before they eat it; for if they drink after it, it swells and gives them pain. The Indians eat it hot, boiled, and call it '*mote*', and sometimes toasted. There is a sort of it large and round, which the Spaniards eat toasted; they also grind it and make cakes, which they eat hot; and these, in some places, they call '*arepas*.' They also make bread, to keep, and sweet cakes of it."

As Acoste died in 1600, at Salamanca, in his sixtieth year, this must be regarded as very early testimony upon the subject. He surely would not have been so very particular in his description of this grain had it been previously known in Europe. Indeed entire ears of Indian corn have been found enveloped in Peruvian and Mexican mummies, preserved long before the discovery of America.

It is probable that some inferior species of the genus to which maize belongs, have been found in Guinea, Turkey, and other portions of the Old World; but that the kinds now so highly valued and generally cultivated were of American origin, there can be no doubt, both from the strongest negative and positive evidence. Maize is now extensively cultivated in Asia and Africa. In Europe, it is only in the extreme southern parts, France, Spain, and Italy, that the crop can be raised so as to be profitable.

The authorities cited above, are considered pretty conclusive in the matter. In an essay on Indian corn, which may be found in the 2nd volume of the Farmers' Cabinet, and which was delivered by Peter A. Browne, before the Chester County Cabinet of Natural Science, the writer says he "has taken extraordinary pains to ascertain its history," and after he has given the details, he thinks it easy to pronounce, to what portion of the globe the rest of the world is indebted for Indian corn. He cites numerous authorities, the general bearing of which, undoubtedly is, that the plant in question is a native of America. Robertson in his History of America, speaks of the natives of the Southern continent confining their industry to rearing a few plants, which in a rich soil and warm climate were easily trained to maturity. "The chief of these," says he, "is maize, well known in Europe by the name of Turkey or Indian wheat, a grain extremely prolific, and of simple culture."

Prescott in his Conquest of Mexico—and we consider him a careful investigator—says "the great staple of the country, as indeed of the American continent, was maize, or Indian corn, which grew freely along the vallies, and up the steep sides of the Cordilleras to the high level of the table land." And Baron Humboldt, insists that it was found by the Europeans in the New World from the south of Chili to Pennsylvania, and, says Prescott, "he might have added to the St. Lawrence," for the Puritan emigrants found it on the New England coast, wherever they landed.

We raise annually, in the United States from four to five hundred millions of bushels of this noble grain. It has sometimes been termed the *meal*, the *meadow* and the *manure* of the American farmer, and we can but feel alive to its history, as well as its cultivation. For cattle and hogs, there is no produce of the field that can equal it; and for man it only gives precedence to the nutritiousness of wheat.—Ed.

For the Farmers' Cabinet.

Fine Ears of Corn.

Mr. Editor,—I send you half a dozen ears of corn from the field of Mr. Paschall Morris, that our friends may perceive there is no mistake in the crop, and which may very properly be termed the effect, whatever may be the cause of so unusual a yield as 110 bushels per acre of shelled corn. At the same time,

it must be acknowledged that we always attribute great garden crops to superior cultivation; especially in the article of digging and pulverization; and I know of no law that should prevent the working of the rule in one case as well as the other. These ears I have obtained, and send, for the purpose of exhibition at the office of the Cabinet; and although they have been selected, yet every practical man will know, that the whole crop must have been in *keeping*, to show the result at harvest. D. F.

West Chester.

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, THIRD MONTH, 1845.

ALTHOUGH we have rarely alluded to the numerous evidences received from our subscribers, of the esteem in which they hold the Cabinet, the Editor owes it to himself, as well as to those who are pleased to express themselves so favorably of it, to say that he is by no means insensible to the good opinions of those for whom he labors. He values those good opinions as highly perhaps as any one, and is desirous to merit them. It is his ambition to make the Cabinet of far more value to its readers than the small amount of its price, and when he ceases to believe it is so, his name shall be withdrawn from its head. We have never held out any great or extraordinary promises;—we have never supposed that the Cabinet was to work any remarkable and sudden change in the condition of the farmer who lacked the enterprise or shrewdness necessary to make its hints available; but we have believed, and it is gratifying that others believe, that those who look through its pages will hardly fail to gather many hints that may be carried out advantageously in the every day operations of the farm.

In a letter received a few days ago, from Delaware, the writer is pleased to say, "I value the Cabinet, and am endeavouring to practice in accordance with some of its sentiments, for which I incur the ridicule of some of our old fashioned farmers down here. However, I have the satisfaction to know, that two years labor has about doubled the product of my farm, without any additional outlay more than what I have made on the farm."

And we would impress it on our citizens, that it is not to the farmer alone, that the Cabinet is calculated to be interesting or valuable. Who is the man whose habits or pursuits preclude him from deriving gratification at least, if not profit, from its plain matter-of-fact pages? For this is the character we have always intended to give it. The Editor having no wish himself to deal in visionary schemes or theories, would not willingly lead others into them: and if he does but little good, it is his hope that the Cabinet shall still less do harm.

SINCE the insertion of the Communication of Reeve and Brothers, in the last number of the Cabinet, numerous enquiries have been made in relation to their mode of raising water. We can only refer enquirers to their letter, and to one on the same subject from J. H. B. Latrobe, in the 2nd number of our last volume. We have understood that several farmers in the neighborhood of West Chester, have been entirely successful in availing themselves of this beautiful mode of supplying water to their houses and farm yards.

THE fifth number of Colman's Agricultural Tour in Europe, was received a month ago, treating principally on Soils and ploughing. An extract will be found on page 256. This number completes the first volume, which we shall have bound and for sale in a few days. If subscribers will send their five Nos. to this office, they will be well and cheaply bound.

SINCE our last number was published, a long communication has been received from a valued friend in relation to the *Prouty* and the *Moore* ploughs:—it does not seem to throw any new light on the matter, and as a great deal of talking, or a great of writing, will neither make these ploughs better nor worse, we think it is quite possible to say more on the subject than will be of interest to the readers of the Cabinet. That they are both excellent ploughs, we do not hesitate to believe. Conclusive proofs of their excellence may be found in the numerous premiums, each of them has taken at our ploughing matches, and the extensive introduction of them into the hands of our farmers. The editor wishes to state explicitly, that he has no interest in either of them, directly or indirectly, further than that which would lead him to wish the wide spreading of such excellent implements. Let them both advertise in our paper; then they cannot fail to be known from Cape May to the Cherokees: and we may venture to say that wherever they are known and thoroughly tried, they will be liked.

We are indebted for the blocks of the *Dorking* and *Poland* fowls, on page 249, to the courtesy of the *American Farmer.*

DR. KIRKBRIDE'S Report of the Pennsylvania Hospital for the Insane, for the year 1845, has been politely forwarded through the post-office, and we have as usual, looked through it with much interest. We have long been of the opinion that this Institution—this branch of that noble charity, the Pennsylvania Hospital, is managed by the principal and his assistants with great efficiency and sound discretion. Numerous proofs of this are observable in the Reports which have been made from time to time by Dr. K., since the Institution was opened five years ago, for the reception of patients. Its whole economy is based upon those liberal and enlightened views which look rather to moral influences, than to the strap, the mitten, or the straight jacket. These last, indeed, might almost be said to be interdicted from the premises. There is certainly no ordinary degree of satisfaction in being able to refer to this retreat, as having thus far realized all the anticipations of its projectors, and we trust it may be allowable to invoke the blessing of the Supreme Being upon their efforts to meliorate, as far as possible, the condition of the most afflicted of our kind.

A FRIEND in North Carolina inquires for any breed or variety of *polled* or *hornless* cattle of high value for dairy purposes; whether it be native, grade, or foreign, is immaterial, the only requisites being hornless, milking richly and copiously, with hardy constitution and good form. He also asks, "Are the polled Galloways, or the polled Suffolk dun cattle, to be found in your region? and if so, can there be found among them any individual families milking richly and abundantly,—thus qualifying them for dairy stock." The editor not being able to answer these inquiries satisfactorily, throws them in this manner before his readers, with a hope that some one better informed in the matter, will be pleased to reply to them.

THE quantity of rain and melted snow which fell in the 2nd mo., 1846, was three inches and a third. 3.33 in.

There were 72 hours of snow, and 15 of rain.

Penn. Hospital, 3rd mo. 2nd, 1846.

New York Agricultural Warehouse.

Farmers, Planters, and Gardeners will find the LARGEST AND MOST COMPLETE assortment of Agricultural Implements of all kinds at this establishment, ever offered in the New York Market. Most of these implements are of new and highly improved patterns, warranted to be made of the best materials, put together in the strongest manner, of a very superior finish, and offered at the lowest cash price.

Among these implements are upwards of FIFTY different kinds of Ploughs manufactured by Ruggles, Nourse and Mason, of Worcester, Mass., also in New York—for the South as well as for the North; Harrows of different patterns and sizes; Rollers of wood and cast iron on a new principle; Seed sowers for all kinds of seeds, a recent invention; Cultivators, with different kinds of teeth; Horse Powers of wood or of cast iron, very strong and superior; Grain Thrashers: Fanning Mills; Mills for grinding corn, &c., a new invention; Corn Sheller for hand or horse power, the latter shelling 200 bushels of ears per hour; Vegetable Cutters, will cut a bushel of roots for cattle in two minutes; Hay, Straw, and Corn stalk Cutters; Scythes, Rakes, Shovels, Spades, Hoes—indeed Field and Garden Tools of all kinds.

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Agricultural Books.—A general assortment of all kinds.

A liberal discount made to dealers.

A. B. ALLEN,
No. 187 Water Street, New York.

March 14, 1846.—2t.

☞ SHORT ADVERTISEMENTS. ☜

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

SEED STORE,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red Clover, and other grass seeds; fresh Perennial Rye-grass, and Lucerne seed. Field seeds, consisting of choice Spring Wheat, Barley, Potatoe Oats, Northern and other seed-corn. Also, in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.

Philad., Feb., 1846. tf.

Agency for the Purchase & Sale of
IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay. AARON CLEMENT.

Jan. 15th, 1846.

COATES' SEED STORE,

OF MORE THAN FORTY YEARS STANDING,

Where may constantly be had

Clover, Timothy, Orchard, Herd,

AND OTHER

GRASS SEEDS,

TOGETHER WITH A COMPLETE ASSORTMENT OF

GARDEN SEEDS,

Of the finest Quality and best Varieties,

JOS. P. H. COATES,
No. 49, Market st., Philad'a.

Are sold only in Philadelphia, at the SEED AND IMPLEMENT WAREHOUSE of the subscriber, No. 65 Chesnut street, below Third, North side.

DAVID LANDRETH.

Purchasers will observe that the above seeds are essentially distinct from those obtained by ☞ *Foreign Importation* or *Chance Purchase* ☜ at home, which are generally, *at best*, uncertain.

☞ Extract from the "REPORT" of the "VISITING COMMITTEE of the PENNSYLVANIA HORTICULTURAL SOCIETY;" *approved and ordered to be printed.*

"Landreth's Nurseries and Gardens.

"These extensive grounds are on Federal street, near the Arsenal. * * * * * The earliest collection of Camellias was made here. Some of those now in the possession of these distinguished nurserymen, are ten feet high. * * * * * The selection of GREEN-HOUSE PLANTS is valuable and extensive. * *

"The NURSERIES are all *very correctly managed*, supplying every part of the Union; a detail of which would occupy too much of our space; we therefore content ourselves with stating that the stock is very large, and in every stage of growth, consisting of

Forest and Ornamental Trees, Shrubs, Evergreens, Vines and Creepers,

with a collection of herbaceous plants; *Fruit Trees* of the best kind and *most healthy condition;* large beds of seedling apples, pears, plums, &c., as stocks for budding and grafting; *a plan very superior to that of working upon suckers*, which carry with them into the graft all the diseases of the parent stock. * * * * *

GARDEN SEEDS

of the finest quality have been scattered over the country from these grounds, and may always be depended upon. The SEED ESTABLISHMENT of these HORTICULTURISTS is one of *the most extensive in the Union*, and its reputation is well sustained from year to year.

"To obviate the chance of mixture of the farina of the plants of the same family, they have established another nursery, at a suitable distance, so that degeneration cannot take place, and which secures to the purchasers 'a genuine article.' Knowing thus the age, quality, and process of culture of every plant, *the supply from their grounds is recommended with great confidence.*"

⁂ Since the date of the "REPORT" from which the above is abstracted, the ENTIRE ESTABLISHMENT has been GREATLY ENLARGED. The collection of Camellias embraces all the finer kinds, and consists of some thousands of various sizes; so likewise of Roses, and other desirable plants, both tender and hardy—Fruit Trees, &c.

The *Seed Gardens* alone, cover *fifty acres*, and the whole is, as it has been for more than *half a century*, under the successive management of father and son, the *most prominent in America.*

Orders for Trees, Plants, &c., in all their variety, from the Nurseries, now conducted by D. LANDRETH & FULTON, received as above; where, also, Catalogues may be had, gratis. 2t

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D. O. PROUTY'S
Agricultural Implement Ware-house,

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Every variety of Agricultural and Horticultural Implements in general use, of the most approved patterns and superior workmanship, at *extremely low prices.* A full assortment of the *Prouty & Mears'* Centre Draught, Self-sharpening, right and left hand, subsoil and side hill, Wheel and Swing Ploughs, with points and shares so strong and thoroughly purified and hardened, that one hundred acres of land have often been ploughed with a single set, at an expense of 50 to 62 cents. These ploughs are constructed of the best materials and of the highest finish; and for *ease of draught* and *management*, the facility with which their points and shares are turned and sharpened, the eradication of weeds and the thorough cultivation of the soil, they stand unrivalled in the market. They are warranted to work in any soil, and to give perfect satisfaction after fair trial, or they may be returned, when the purchase money will be refunded,

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March 14th, 1846. 2t.

NEW

Horticultural and Agricultural Ware-house,

84 *Chesnut Street below Third, South side.*

The subscriber has for the better accommodation of his customers, opened the above ware-house, with a large stock of Garden and Field Seeds, crop of 1845. Implements and Books on Gardening and Farming; he calls the particular attention of farmers to his pure stock of Sweede Turnips, Field Carrots, Beets and Parsnips, Pruning Shears, Saws and Knives.

March 14th, 1846.—1y. R. BUIST.

THE farmers in the vicinity of Washington, Pa., met at that place on the 18th ult.; adopted a Constitution and elected the necessary officers of an Agricultural Society. John L. Gow, Samuel McFarland, and James McFarren, were appointed to prepare an Address to the citizens of Washington county on the subject.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$3 50
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MORRELL'S AMERICAN SHEPHERD,	1 00
STABLE ECONOMY,	1 00
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SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
HOARE ON THE VINE,	62½
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LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions received for Colman's Agricultural Tour—or single numbers sold.

☞ We are prepared to bind books to order.

GUANO.

Twenty-five tons first quality Ichaboe Guano, in bags or barrels, for sale in lots to suit purchasers, by

S. & J. J. ALLEN & CO.,
No. 7 South Wharves, 2nd Oil Store below Market street, Philadelphia.

October 15th, 1845. tf.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates street. Present price, for seven barrels or more, $1 75 per barrel, containing four bushels each. Any number of barrels less than seven, $2 each, or thirty-five cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it.

JOSIAH TATUM.

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THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

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Joseph Rakestraw, Printer.